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SYMPOSIUM ON SYPHILIS

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A NEW METHOD OF PROTEIN FEVER TREATMENT IN RESISTANT SYPHILIS

MARQUE O. NELSON, M.S., M.D.
TULSA

Whenever a new method of treatment is shown to have curative effects not previously attainable by other means, its general adoption as a rule quickly follows and through extensive and frequent use it soon becomes the source of widespread benefit. In a measure this has been true of therapeutic malaria. Discovered about 1917 by Wagner von Jauregg, who for years had been trying the effect in various mental diseases of fever-producing agents of different kinds, it has since come into use in most of the larger communities of Europe and America. But, although it is marvellously effective in general paresis, it has not accomplished the vast good that would be possible if it could be put to earlier and more common use. The explanation for this probably lies mainly in the disadvantages associated with its use. For satisfactory malarial organisms often are difficult to obtain, the extent of the patient's reaction is not subject to control, at times making it necessary to terminate the infection before it has had time to work its benefit and there is frequently a complete or partial immunity to malaria that either prevents successful inoculation altogether or aborts the infection after a few paroxysms. In addition, the mortality rate associated with malaria therapy has been so high as to make necessary some deliberation before using it, except in those apparently destined to hopeless injury without its salutary effect.

Accumulated figures on the subject indicate that malaria apparently cures about a fourth of the paretics treated by it and that it improves many more, even after mental changes have been present for several years. But if malaria could be put to common use early in cases resistant to other therapeutic methods, very few of the many now hopelessly damaged by syphilis (whether from involvement of the nervous system or any other vital part of the body) ever would have suffered organic injury at all. The disadvantages that have prevented malaria from taking a place among therapeutic measures applicable relatively early in the course of treatment have consequently precluded its common use in the very cases in which it would be capable of doing the most good. The need for an effective and more readily available and controllable substitute for malaria is therefore apparent.

In the consideration of malaria's effect on the body two features, the chill and the fever, are outstanding. Whether these are causally related to the beneficial effects induced by malaria or whether they are merely incidental products of the immunological reaction of the body is a question still unsettled. However, the element of fever has seemed so promising a clue to follow that all substitutes thus far proposed to take the place of malaria have

had the induction of fever as a main object.

The proposed substitutes for malaria are of three kinds: physical agents, such as hot water baths and diathermy; superimposed parasitic blood infections—relapsing fever; and substances injected into the body, such as colloidal sulphur and bacterial vaccines of various kinds. All these have disadvantages. Those of the first group, being purely physical agents, probably act mainly by physical means, with but little of the stimulating effect on bodily immunity processes that appear to be an important part of the therapeutic action of malaria. In addition diathermy, which has recently come into vogue, necessitates expensive apparatus that greatly reduces its availability in private practice. Relapsing fever has disadvantages similar to those of malaria—namely, that it is hard to obtain and is not controllable in its effects. Those of the third group, although having as heretofore used a therapeutic efficiency lower than that of malaria, have advantages in the matter of availability and control of dosage that seem to indicate the possibility they might be devoloped into practical substitutes for malaria that could be put to everyday use.

The bodily reaction to malaria is characterized most conspicuously by the production of chills followed by fever. The reaction to intravenous injections of foreign protein is similar, but with one difference: the fever attainable by foreign proteins as usually employed has not been as consistently high as that produced by malaria. While early in the course of treatment there may be no difficulty in producing a fever reaction of satisfactory degree, after a few doses the immunity to the vaccine acquired by the body is often so great that temperatures above 101 or 102 degrees cannot be produced without using doses large enough to cause severe shock.

The observation has been repeatedly made that in the main, the benefit derived from treatment by malaria is roughly proportional to the severity of the fever reactions. With this observation in view it appears probable that the therapeutic shortcoming of foreign proteins as compared with malaria might be explained by their lower capacity for producing fever —the fever being not the cause of cure, but an index of the severity of the immunologic reactions taking place in the patient's body. It would seem likely, therefore, that if the fever-producing capacity of foreign proteins could be made to equal that of malaria, their therapeutic effectiveness might at the same time be raised to that of malaria also.

A NEW METHOD

Since September, 1929, I have used a method of injecting foreign proteins that will produce fever as high as the fever of malaria. With this type of treatment the fever reactions are controllable and can be regulated from day to day as the case in hand requires. The method is simple and is especially suitable for use in private practice—the substance injected being readily available and no expensive equipment or special facilities being necessary.

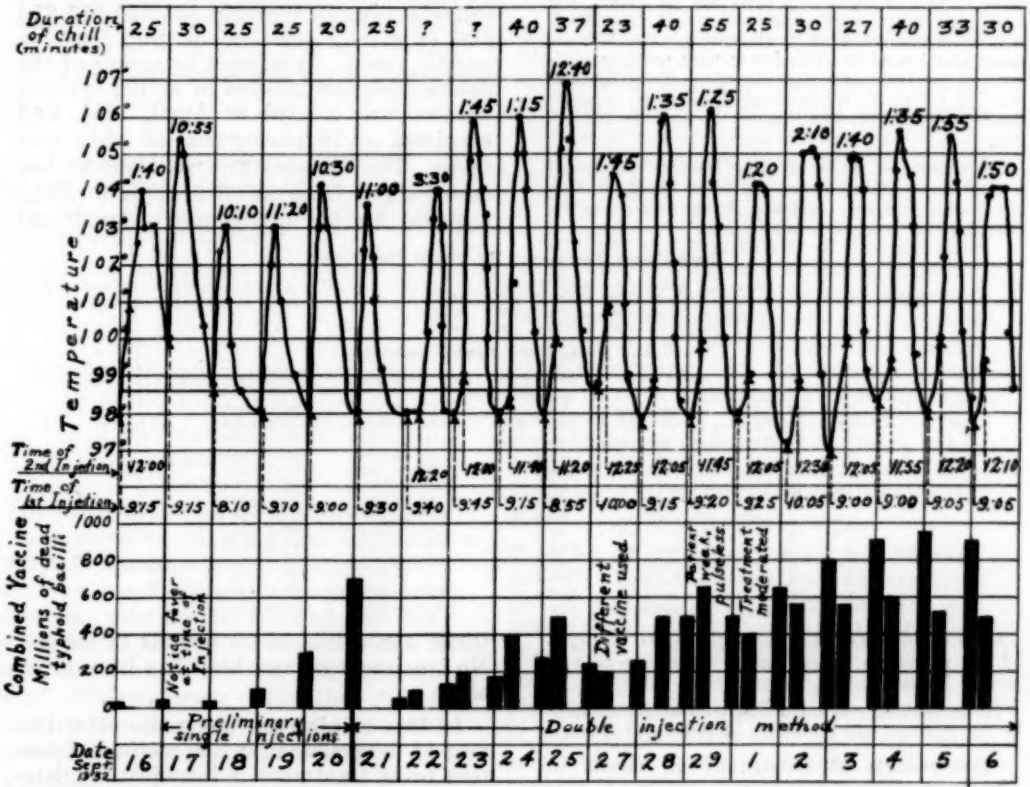
TECHNIC

As previously reported[1], the technic consists in giving two intravenous injections of combined typhoid vaccine for each fever paroxysm, instead of one. The injections are made from two to three hours apart, the second dose being given at the height of the fever induced by the first. The doses used are smaller than those that must ordinarily be given and with a little experience in observing reactions, the dosage necessary to produce the desired degree of fever in any case can be rather accurately estimated. In order to arrive at an idea of the patient's reactivity the first few days' treatment is given by the single injection method, beginning with a dose of about 50 or 100 million dead typhoid bacilli and doubling the dose each day, depending on the severity of the reaction induced. After a few days of trial in this way the double injections are started, using beginning doses about one-tenth as large as the last single dose. The first dose each day should be just large enough to produce a fever of about 99 degrees or 100 degrees. The second dose should be about the same size as the first but if by experience it is found necessary to make it larger, it should be correspondingly increased. This second dose has a peculiar "explosive" effect—it seems to ignite a charge created in the body by the first dose, causing the patient's temperature to mount to very high levels—107 degrees or more. As with usual methods, it is necessary to increase the amount of the dosage

each day, because of the immunity to the vaccine that develops in the body.

ILLUSTRATIVE CASE RECORDS

Case 1. A man aged 33 had been troubled by the lightning pains of tabetic neurosyphilis since 1925. He had been under treatment with arsphenamine and mercury from August, 1928, until July 1, 1930. At the first examination in 1928, the Wassermann reaction of the blood was strongly positive and the spinal fluid showed: Wassermann (Kolmer) 4441—, 38 cells, colloidal gold test 0000021000. After treatment, in July, 1930, there was no appreciable change —the Wassermann reaction of the blood was still strongly positive and the spinal fluid findings were: Wassermann (Kolmer) 44431, cells 42. He returned in September, 1932, and was given a course of protein fever treatment as shown in the following chart:



This is a chart of the treatment used in Case 1, which has been chosen because it illustrates well the details of technic of the double injection method and because it demonstrates the advantage of this type of treatment over malaria. The first six days of treatment were given by the ordinary single injection method, which in this case was carried on for experimental purposes longer than is usually necessary. It is seen that on September 29, treatment was interrupted on account of signs of cardiac failure in the patient, and resumed after a day's rest with milder paroxysms. With malaria such control of treatment would have been impossible—in this situation it would have been necessary either to stop the infection altogether, forfeiting any chance of benefit to the patient or allowing it to go on and running the chance, very serious under the circumstances, of having the treatment cause the patient's death.

The chart also shows that although towards the end of the course of treatment rather large doses of vaccine were necessary to produce high fever, when given singly these doses were not capable of inducing fever of more than 99 degrees or 100 degrees. Yet after the second dose, the temperature rose to 106 degrees and almost 107 degrees.

Although this case is reported for the purpose of illustrating technical details, it is interesting to mention that since the treatment was completed the patient has gained fifteen pounds, weighing more now than ever in his life, that he feels and looks more rested and has very little trouble from the old pains. Because of insufficient lapse of time since treatment, no reexamination of the spinal fluid has since been made.

Case 2. A man aged 56, had been troubled for several months by dizziness and nausea and by a feeling of impending syncope. There was some headache across the forehead and in the back of the neck. These symptoms came on when the patient was in the upright position and abated a good deal when he lay down. Vomiting had accompanied the nausea a number of times and according to the patient's description, was of projectile type. There was also a little numbness across the forehead and face. The patient had been confined to his bed for a week before he was first seen, because of these attacks, and it was impossible for him to walk or stand even a few seconds without having one of them. There were no localizing symptoms—no diplopia or disturbance of

vision and no speech difficulty. There was no pain anywhere and no difficulty in locomotion. There had been no real attack of unconsciousness and no emotional disturbance other than extreme nervous fear during the attacks of threatened syncope. The patient had not had any symptoms which were suggestive of gastric crises. There was no history of infection with syphilis.

The patient was a gray-haired, rather thin and nervous man who looked considerably older than his years. His weight was 125 pounds. The vision and visual fields were roughly normal; the pupillary reactions normal also. There was no sign of choked disc in either eye, no tremors of the facial muscles, the hearing was normal and in fact function of all the cranial nerves remained intact. The only positive finding in the nervous system was a diminution of the pain sense in several areas on the anterior surfaces of the lower extremities. The tendon reflexes were slightly increased, but there was no ataxia. The heart and lungs were apparently normal and there was no abdominal mass or tenderness. The Wassermann reaction of the blood was very strongly positive on two occasions and the spinal fluid findings were as follows: Wassermann (Kolmer) reaction 44442, 30 cells, collodial benzoin test 123 330 002 333 000.

On account of the spinal fluid findings the patient was given a course of protein fever treatment with the double injection method. A chart showing the record of his fever reactions follows:

Preliminary Treatment By Single Injections

Nov. 22, 1932— 40 million 101.4.
Nov. 23, 1932—200 million 104.6 ax.
Nov. 25, 1932—200 million 104 rect.
Nov. 26, 1932—250 million 104 rect.

Present Method By Double Injection

	First dose	Highest temperature	Second dose	Highest temperature
Nov. 27, 1932—	40 million	99.4 rect.	75 million	105 rect.
Nov. 28, 1932—	90 million	100 rect.	130 million	106.4 rect.
Nov. 29, 1932—	150 million	100 rect.	170 million	106.4 rect.
Nov. 30, 1932—	250 million	99.6	275 million	106 rect.
Dec. 2, 1932—	300 million	100.2	225 million	106.2 rect.
Dec. 3, 1932—	350 million	99.6	375 million	107.2 rect.
Dec. 4, 1932—	425 million	99.4	500 million	107 rect.
Dec. 5, 1932—	550 million	99.6	650 million	107.2 ax.
Dec. 6, 1932—	650 million	99.6	775 million	107.2 ax.
Dec. 7, 1932—	650 million	102 rect.	400 million	104.6 rect.
Dec. 8 1932—	500 million	100.6 rect.	600 million	107 ax.
Dec. 9, 1932—	600 million	100.2	750 million	107 ax.
Dec. 10, 1932—	650 million	100.4	850 million	107.2 ax.
Dec. 12, 1932—	650 million	100	850 million	107.4 ax.

Since the treatment was given the patient has gained ten pounds in weight and is much improved in general health.

He is working every day and is no longer troubled by the dizziness and sensations of threatened syncope.

The results of treatment in cases in which the double injection method has been used thus far have been as good as those seen following treatment of similar cases by malaria. In several cases the clinical results have been almost miraculous. One of these was the case of a woman aged 37, who had been under treatment for syphilis for several years. She had had neoarsphenamine and mercury in comparatively large amounts during this period but in spite of treatment had lost weight and became more nervous. For a year she had been troubled by fits of excitement, delirium and unconsciousness. The attacks had become more frequent during the six months before examination and had come on with little warning every ten days or two weeks. During most of them she was excited and maniacal and had to be forcibly controlled. The patient's height was four feet, eleven inches, her weight 110 pounds. On physical examination no signs of neurosyphilis were found. The Wassermann reaction of the blood had been consistently strongly positive since August, 1929, the time at which it was first taken. Examination of the spinal fluid December 14, 1930, showed: Wassermann (Kolmer) reaction 44442, 32 cells, colloidal benzoin reaction 333 330 033 333 200 (a strong reaction in the first or paretic zone). Treatment by means of the double injection method of giving typhoid vaccine was started in April, 1931, and consisted of 18 paroxysms of chill and fever. The temperature reactions in her case ranged from 104.6 degrees to 106.2 degrees. During this course of treatment there was a loss of 25 pounds in weight. No treatment of any kind has been given since.

In this single case alone the effectiveness of the double injection method of protein fever treatment is incontestibly demonstrated. During the two years since the treatment was finished the patient has not had a single attack like those from which she formerly suffered, she has gained 51 pounds in weight (she is now on a self-imposed reduction diet) and is apparently in perfect general health. She was advised to have a second course of treatment but has not been able to convince herself of the necessity because she feels so well. Besides the clinical improvement, there has been a marked change for the better

in the serologic tests also. A Wassermann test made of the blood October 14, 1932, was reported "two plus." Tests of the spinal fluid at that time showed: Wassermann (Kolmer) 41—, 3 cells, colloidal benzoin 123 233 333 321 000.

SUMMARY

1. The need for an effective and readily available substitute for malaria in the treatment of resistant syphilis is pointed out.

2. A method is here described that fulfills all the requirements for such a substitute.

3. The method is convenient and readily available and is capable of being put to general use early in the course of resistant syphilis, while it is still possible to prevent organic damage to the body from taking place.

4. Treatment of resistant syphilis by this method has brought about improvement equal to that observed in similar cases treated by malaria.

1. Nelson M. O.: An Improved Method of Protein Fever Treatment in Neurosyphilis, Am. Jour. Syph., XV, No. 2, pp. 185-189, April, 1931.

THE INCIDENCE OF SYPHILIS

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MUSKOGEE

The economic value of syphilis is readily seen when we consider that ten out of every one hundred people are reputed to have the disease. Although the majority of these cases may not be disabled, the number of deaths annually, the number of cases in the insane asylum, and the number of children born with the disease creates a problem whose solution challenges the entire medical profession.

According to a recent report by Dr. H. J. Morgan of Nashville, the annual number of cases diagnosed is 870,000, making a total of 7.3 per 1000. This however, does not include many who go undiagnosed because of expensive laboratory procedures or because they remain latent throughout their life, and do not consult a physician. Of this number less than one-half are diagnosed as early syphilis, leaving a large number to be picked up with late manifestations, having passed through the early infective stages unmolested.

Eli Grimes in the Iowa Journal of Medical Science reports the incidence of syphilis in general practice on 15,000 indivuals, with a positive diagnosis on 674 or 4½%.

The extent of the problem of syphilis has been estimated by T. Parran and L. J. Usilton on case rates of 4.77 for males and 3.08 for females to be 643,000 cases.

A study of the rural negro in a Southern state indicated that as high as 24% of the entire population of more than one year of age showed positive Wassermanns.

A survey of 1143 men examined at the Mayo Clinic showed an incidence of 4.2% for men and 2.6% for 514 women. Dr. Stokes considers this much lower than the average. The British Royal Commission gives a conservative estimate of 7-10% infected with syphilis. Investigators in other countries give estimates ranging from 12 to 74% of the population.

Statistical presentation of the problem of syphilis cannot ever be entirely accurate because of factors not at the observer's command. The number will vary, depending on the method of diagnosis; whether by Wassermann test, by clinical symptoms, or by a combination of both. Wassermann tests on bedfast patients vary from those on ambulatory patients, while tests on an entire population would vary from tests taken on those seeking medical aid.

In an attempt to survey the Wassermann's run at the Fite Clinic Laboratories during the past four years, the fact was kept in mind that the majority of these cases were ambulatory, having walked in for a general examination, and only a small per cent of these cases were stretcher cases or hospital cases. Since the Wassermann test is run routinely in all general examinations, irrespective of the common complaint, the majority of these cases were diagnosed at that time.

In this series of cases the Kolmer modification of the Wassermann test with cholesterolized antigen was used and checked with the Kahn precipitation test. The positives were proven with clinical findings or checked with the therapeutic test to eliminate all false positives. When doubtful positives were obtained, the blood

was rechecked until the reaction was either positive or negative.

The 2500 cases in this series includes the following:

1014 white males with 108 positives or 11.1%.

1985 white females with 88 positives or 8.5%.

182 colored males with 41 positives or 23.9%.

215 colored females with 63 positives or 30.5%.

This makes a total of 301 positive reactions on 2500 individuals or an average of 12%, irrespective of sex or color.

These figures agree with those of previous reporters, reporting on early syphilis in that all types of syphilis occurs more frequently in white males than white females, and more frequently in colored females than colored males. However, the variation is not as striking as in early syphilis.

The average age of syphilitic individuals at the time of diagnosis, is usually given as between the age of 20 and 30 years. The average age of 221 of my cases of acquired syphilis on whom the ages were obtained was 32.5 years. The youngest was a boy of 13 years of age, who acquired the infection from his parents at an early age and the oldest was a colored man of 70 years, who presented himself because of an aortitis. Many of the luetics were recurrent cases who had had treatment in their youth and the routine Wassermann test showed them still positive. This large number of recurrent cases together with the latent and undiagnosed cases was responsible for my large proportion of late cases (242 out of 301 positives were tertiary and central nervous system cases). Of the remaining number, 61 were diagnosed early syphilis and 10 heredito-syphilis.

The incidence of syphilis in a rural community of clinical patients agrees very well with statistics elsewhere. The County Health Officer of Muskogee County, Dr. E. H. Coachman, to whom I am indebted for the following figures, estimates that he receives reports on about 80% of the positive Wassermanns obtained by doctors in the country. During 1931, 225 positive tests were reported and during 1932, 291 tests were reported. With a population of 66,000 in Muskogee County, the average diagnosis rate per year is 3.9 per 1000 people.

CONCLUSION

An attempt has been made to estimate the incidence of syphilis in clinical patients by routine Wassermann tests. Statistics obtained show us that better than 50% of our cases pass through the infective stages undiagnosed. If this remains true, how hopeless are our efforts to control this spread. Routine Wassermann tests on every patient who comes to the office might help us in the solution of this problem as to diagnosis but competent and efficient treatment for every case must still remain an economic question.

OCULAR SYPHILIS*

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TULSA

I shall not review the voluminous literature on "Ocular Syphilis," but confine my paper to a report and discussion of two interesting clinical cases.

Case History No. 1: February 4, 1933. Mrs. H., age 73 years, white, widow. Ocular diagnosis: Interstitial keratitis (probably congenital).

Family History: Father died at age of 75 years of apoplexy. Mother died at 84 of heart trouble.

Past History: Weighed 2½ pounds at birth. Puny, practically an invalid until 12. Good education, had fits of temper.

Married at age of 21. Has five living children, one dead and one miscarriage. Oldest daughter is 52 and is in good health except for goitre, one child died soon after birth, several miscarriages. Daughter age 49 good health except bad temper, miscarriage four and one-half years after marriage. Daughter 41 had chronic interstitial keratitis in both eyes at age of 24, anti-leutic treatment with good results. Daughter 39 is in good health. Son 37 has good health, prematurely gray. Son died at 35 due to lobar pneumonia, had just been discharged as well from Vinita by Dr. Adams after six months' treatment for paresis. Husband died at age of 47 of paresis. After the first two children she was given potash and arsenic (anti-luetic treatment), and after the miscarriage continued treatment for two years. Malaria 7 years ago. Soon after miscarriage at 26, right eye became inflamed and she has been practically blind in this eye ever since.

Recent History: Since the first of the year she was becoming more deaf and was unable to repeat spoken word. In January she had a slight cold, which was followed by left eye becoming red and inflamed with diminution in vision.

Eye Examination: Right eye had reddish brown scar covering one-half cornea central and below. No doubt this was the result of interstitial keratitis at

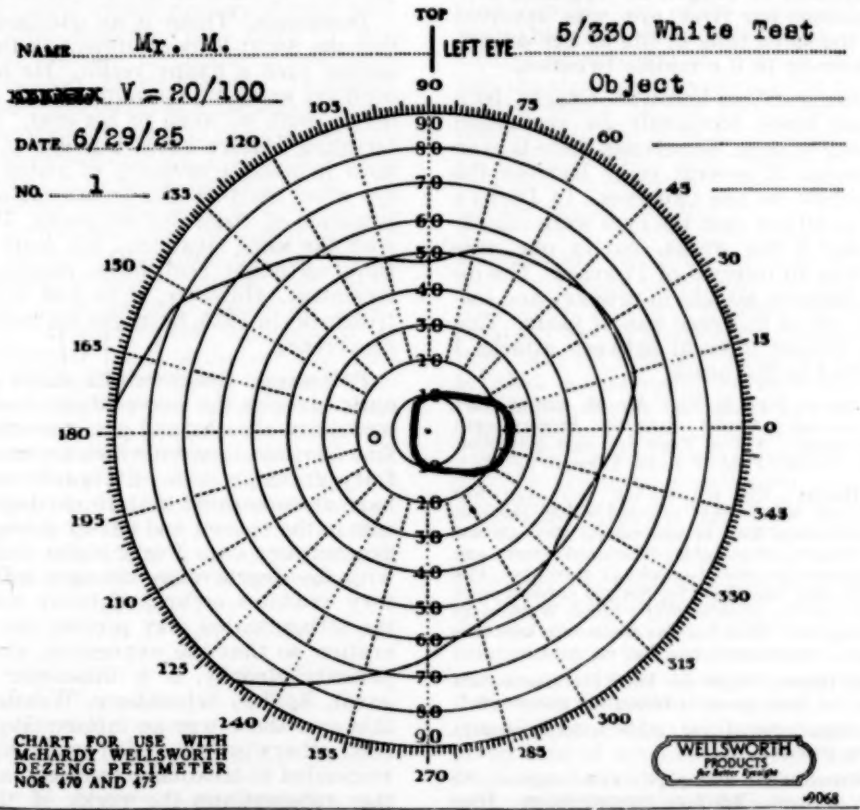
*Read before Section on Eye, Ear, Nose and Throat, Annual Meeting Oklahoma State Medical Association, May 17, 1933.

26, or 47 years ago. No practical vision. Left eye; photophobia conjunctiva injected, slight ciliary injection, cornea diffusely clouded in upper inner quadrant, antorior chamber normal depth, pupil normal in size and iris appeared normal.

Physical Examination: Small of stature, prominent forehead and saddle back nose. Was hard of hearing. Blood pressure was 260-150. Heart enlarged with accentuated second aortic sound. Four plus Wassermann.

Progress Notes. February 10, whole upper part of cornea was opaque. Ground glass appearance.

February 21, more of cornea was opaque. Deep blood vessels coming from limbus above and nasally.



Puncture Chart at Central Dot and place the opening over the pin at center of chart holder. Locate chart on holder to 90 will be up and the extended horizontal line will register with marks on clamp ring at either side.

The area of the Average Field of Normal Indirect Vision is shown by the space enclosed by the irregular continuous line. The blind spot is indicated by the small circle located about fifteen degrees to the left side of center.

February 28, almost whole cornea infiltrated, ground glass appearance, many blood vessels. The infiltration was yellowish gray and the iris could only be seen with difficulty. Blood pressure had come down to 200. About this time she had a stroke of apoplexy (basilar or interventricular hemorrhage) with left side of face paralyzed, also pharynx involved with inability to swallow, and some little involvement of hands and arms.

March 16, eye condition essentially the same. General condition very bad. Died of cardio-vascular a few hours after my visit.

In view of the findings, I think one is justified in claiming that in this case we have found conditions which make the diagnosis of parenchymatous keratitis as certain a diagnosis as can be made.

Discussion: In Derby's and Carvill's series of 322 cases of parenchymatous keratitis reported in 1925, the oldest was a woman aged 46 years. DeSchweinitz says the affection is rarely after 30 years, and a few cases are on record as late as the 60th year of life. Fuchs says that it is only the exception that persons after 30 are attacked. This is the oldest case I could find on record, being 73 years old.

The disease is more frequent in females than in males. In this history only the mother and daughter were involved.

The majority of cases of interstitial keratitis are due to inherited syphilis, the evidence of which is present in at least 80 to 90 per cent of cases. In a small percentage of cases (2 to 10 per cent according to Stephenson's investigation) acquir-

ed syphilis is the etiologic factor. In this event the time between infection and the development of the corneal disease may vary from 4½ months (Lawford) to 20 years (Erson), but 36 per cent of the cases occur in the second year. And whereas in the congenital disease both eyes are always involved, the disease is frequently unilateral where the infection is acquired (R. Foster Moore). I believe in this case the disease was congenital on account of the past history of the patient and some of the stigmata of congenital syphilis, and also because her first eye was involved about the same time in life as her daughter's, namely in the middle twenties.

Parenchymatous keratitis attacks both eyes and more frequently in succession than both at once. Sometimes there is even an interval of several years between the involvement of the two eyes. In Derby's series in 80 per cent the eyes were attacked within a few weeks, but in one case there was an interval of 17 years. The interval between attacks in primary and secondary eye in this case was 47 years. This is the longest interval between attacks I could find in literature.

Case No. 2: June 29, 1925, Mr. M., age 34 years, white, married. Ocular diagnosis: Primary optic atrophy (tabes). Vision: Right eye, light perception. Left eye, 20-100. Field of vision, Diagram 1.

Past History: One and one-half years ago first noticed mist before right eye and vision gradually failed in this eye until in nine months the sight was gone. History of probable infection 12 years ago. Had treatment for several months 12 years ago. Had treatment quite intensively for one and one-half years. Shots in arm for eight months. Blood Wassermann always negative. Wife had one miscarriage soon after marriage. One adopted boy, but no children.

Recent History: Right eye blind for nine months. Left eye had been gradually failing for past month.

Neurologic: Patella and ankle reflexes negative. Romberg positive.

Eye Examination: Both pupils were irregular. No reaction to light. React to accommodation. Discs were very pale, grayish in color. Margins well defined. Central cup with lamina plainly visible. Vessels may be slightly contracted in right eye, also the minute vessels have disappeared. Vessels in left eye seemed normal. No other pathological changes in fundi.

Physical Examination: Physical condition good. Heart and lungs essentially negative. Abdomen negative. Blood Wassermann negative, spinal fluid 4 plus. Blood of wife 2 plus.

Treatment: Strychnine was given, gr. 1-60 tid., and was rapidly increased until he was taking 1-12 gr. tid. Swift-Ellis treatment (Salvarsan serum intraspinally) was given July 20. Also neo-salvarsan was given intravenously and bismuth intramuscularly. Discontinued treatment soon after left eye cleared up.

Progress Notes: July 27, considerable reaction from Swift-Ellis treatment. Left eye, 20-60, vision better with field a little larger.

August 17, left eye 20-50. Field larger.

August 27, read Jaeger No. 1, with improvement of vision.

August 30, left eye, 20-20 with difficulty. Thinks he sees as well as he ever did from this eye. Field about normal compared with mine. Right eye hand movement at 1½ feet.

August 10, 1931, left eye failing for six months. Vision 20-30, field contracted to about 25 to 30 degrees. Advised Swift-Ellis treatment again. However, he was talking about going to Hot Springs, Arkansas, and we have not seen or heard from him since.

Discussion: There is no question at all that the Swift-Ellis treatment in this case caused such a happy result. He had the ordinary anti-luetic treatment with arsenic before with no avail to his eyes. The interesting feature about this eye is the almost immediate recovery of vision in left eye after starting this treatment and the retention of vision for six years. Perhaps with the same treatment, his more recent flare up might also have responded to treatment. However, if he had continued treatment in 1925, he might not have had a recurrence.

Pathology: DeSchweinitz states that in optic atrophy the nerve-fibres lose their medullary sheaths and are converted into fine fibrillae, between which are numerous fatty granular cells. Stargardt seems to have demonstrated that an exudative process in the chiasm and nerves precedes the degenerative one. Fuchs states that along with the degenerative changes inflammatory exudates occur and many hold that the inflammation may precede the degeneration so that the expression, simple or primary atrophy, is a misnomer (Stargardt, Spiller, Schoenberg, Webster). In this case there was an inflammatory process, otherwise his vision could not have responded to treatment so nicely, and further substantiates the works of the men just mentioned that inflammation may or does precede degeneration.

The average time from onset of symptoms to blindness is two to three years.

The treatment of syphilitic primary optic atrophy prior to the introduction of the arsphenamines was hopeless. Dr. Harry Friedenwald and others feel that some cases of optic atrophy of syphilis showed marked improvement after treatment with arsenicals. However, two modern methods of treatment, namely subdural therapy and fever therapy, have been found in various parts of the world

to be of some value in arresting the progress of the disease and in preserving useful vision.

In perusing the recent literature I find that J. E. Moore, an internist of John Hopkins, has written more about syphilitic optic atrophy than any other writer. I was impressed with the reports of successful treatment by different men all over the world by especially these two methods, subdural and fever therapy. Moore has a number of case records to illustrate the fact that optic atrophy might be arrested and useful vision preserved over periods of time ranging from four to nine years by the use of subdural treatment. He sates that fever therapy (malaria) while also successful in a somewhat smaller proportion of cases is more likely suddenly to extinguish the patient's remaining vision; it is more dangerous to life, and patients treated with it have not yet been followed for long enough periods to insure permanency of the results. Moore concludes that in a patient with early primary optic atrophy sub-dural treatment by various routes (intraspinal or intracisternal) and with various substances (arsphenaminized serum, neoarsphenamine, mercury or air) combined with appropriate general anti-syphilitic treatment offered at least a 50 per cent chance of arrest or even slight improvement, and that by this means useful vision might be preserved for period of time long exceeding the average expectancy of two years from the onset of symptoms.

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THE PROGNOSIS OF SYPHILIS

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For hundreds of years the study of the prognosis of syphilis has afforded many thrills to those who have lent themselves to this task. Its alluring and speculative interest has only increased with the well-marked steps through the centuries, from the time of the Italian scholar, Fracastora to the era of Ehrlick, Wassermann, Schaudin, and Nagouchi. To say that the subject is now nearing a solution would be a royal act of the imagination.

Because of the extensive and inaccurate propaganda regarding the seriousness of the infection of syphilis, the lay public in general has a superficial knowledge of its nature and results. This information is often misleading and affords impressions which do not properly measure its importance. When the patient who has acquired a syphilitic infection recovers from the first mental shock of the physician's diagnosis, his next reaction is to ask the possibility of cure, the duration of treatment and the chance of developing the many sequellae which he has been taught to associate with the disease. Will he ever be fit for matrimony and capable of begetting healthy children? How long is the disease contagious and will he be able to work while taking treatment? These, among other questions, confront all physicians who have to do with the treatment of syphilis. Not only do these patients understand how to shape their questions, but they have an accurate memory in regard to what is told them, however easily and frequently it may fail them in relation to other matters concerning their syphilis. The patients who have recently acquired syphilis are great questioners and their questions nearly all have to do with prognosis. The problems concerning prognosis the physician will be asked to solve and solve quickly, otherwise the disturbed and too easily suspicious patient will begin to distrust his sincerity. Confidence and absolute trust in the physician are outstanding essentials to thorough treatment—thus, to a favorable prognosis. The responsibility for a good prognosis in a given case of syphilis is definitely twofold: the doctor's part and the patient's part; and, in case of failure, the blame must be divided. Syphilis is one of the few diseases where the prognosis is definitely dependent upon the treatment properly carried out. There must be absolute cooperation between the doctor and the patient and there are many things concerning both which tend to alter this. How should we regard the moral side of the relation between the physician and the syphilitic patient? I fully agree with those who say that the doctor should never favor immoral relations; that it is his duty to prevent such, wherever he can. But I do not feel that the physician should con-

stitute himself a judge of his patient's morals. As soon as his patient has become infected with syphilis, even by his own indiscretion, and has been accepted for treatment by the doctor, he is entitled to the same sympathy and consideration as that accorded to a patient with a more patrician disease. An improper and critical attitude in this relation on the part of the physician has caused many a patient to discontinue his treatment and thus abort his own chance of recovery. Syphilitic patients who make themselves disgusting and repulsive by their moral depravity and shameless personality would hardly be attractive without their syphilis and no one could censor a physician who would refuse to treat them. On the other hand, to brand a syphilitic as an outcast, as an impious and wicked individual, is a moral error. If it were possible to deal out syphilis in direct proportion to immorality and excess, the question would be different; but, in fact, the greatest sufferers from this disease are a long way from being the greatest sinners. Their punishment many times is quite severe for the indiscretion committed. I am certain that no one would refuse his sympathy and kindness to those innocently infected with syphilis. Many of those who are responsible for their own misfortune are even as deserving of the physician's pity and compassion, or more so, since many times they have no one else to look to for a bit of condolence and consolation so richly bestowed upon those affected with other disease—disease which oftimes, just as much as syphilis, is the consequence of reckless life and vice.

The accuracy of prognosis is greatly altered by the unfortunate circumstance that the majority of practitioners see only that phase of the disease which occurs in their particular field of work. Few have the opportunity to follow the patient from the initial lesion through the varied possible clinical manifestations. Their prognostic views then, are formulated by the phase of the disease which they see and the manner in which it responds to treatment. The visible accidents of the disease are treated until they disappear, but the infection as a whole is seldom treated or followed with the necessary and sustained effort. It is only by piecing together scattered observations by clinicians, pathologists, and serologists, that we can obtain our imperfect conception of the prevalence and possibilities of this great infection. An examination of the vital statistics, if properly compiled, gives accurate information as to the cause of death in all disease. It is not possible to obtain accurate information from the vital statistics in the venereal group. The truth just isn't written on death certificates. The relation of cause and effect due to the long duration of the disease is lost sight of on the one hand and the secret must be kept on the other. We have, therefore, at the present no correct estimate of the incidence of syphilis. Death from syphilis occurs in individuals 40 to 60 years of age as the result of myocardial, vascular, renal, and hepatic disease not clinically recognized as syphilis. In 4,880 autopsies recorded at Bellevue Hospital Symmers found syphilis in 314 cases or 6.5%. In a like study by Warthin at Ann Arbor during a ten year period, the infection was found present in 40% of the cases investigated. I cannot help but feel that it would be illogical, unwise, and unscientific to prognosticate the future of a syphilitic patient, seen at an early stage of the infection and treated by modern methods from the view point of the pathologist. Fortunately, all patients infected with syphilis do not die of the disease—thus, we are denied the absolute proof of cure insisted upon by the pathologist and are forced to rely upon the Wassermann reaction and other laboratory considerations interpreted and controlled by the clinician, the prolonged absence of clinical symptoms and the occurrence of second infections. To convince certain pathologists that syphilitics who come to autopsy with or without a positive Wassermann reaction were ever cured, would be a difficult undertaking. It would be just as difficult on the other hand to convince an experienced clinician that syphilis treated at the opportune time and in the right manner cannot be cured. Fortunately, the victim of syphilis is advised by the clinician and spared a life-time of misery and fear by his sane counsel. He is cured, marries, and has healthy progeny if he is fortunate enough to fall into the hands of a physician equipped with modern tools and the knowledge of how they should be used.

Much has been written concerning the effect of syphilis on the length of life. The individual who has had syphilis, even in the late stage, provided the lesions are in structures of little importance may outlive his allotted time. Whether or not this happens depends entirely upon the location of the active process. Since syphilis is primarily a disease of the blood vessels, and

results in the frequent occurrence of tabes and paresis, both of which materially shorten life, it produces a considerable lowering in the average length of life of the syphilitic as a class. Such definite figures as we have on this phase of the subject are obtained from the mortality tables of life insurance companies. The Association of Life Insurance Medical Directors and the Acturial Society of America compiled and published a Medico-Actuarial Mortality Investigation of impaired insurance risks. From this we get our most valuable statistics on the subject that exist, because, covering as it does the immense number of cases and the experience of nearly all of the American companies, the number of cases known or suspected to be syphilitic reaches the enormous number of 25,500 persons of all ages. Among these 25,500 cases there have been 328 actual deaths while the expected was 192.82. That is, among these cases, there was an excess mortality, of nearly 70%, The normal mortality rate for the American companies is based upon millions of risks, among whom it is true there are many unsuspected syphilitics; but, in the aggregate, we may consider it an accurate basis of comparison for determining the extra mortality rate among known syphilitic risks. Thus we have an index to the reduced life expectancy caused by the disease. A further study of these statistics indicate that the increased mortality of syphilitics is large between the ages of 30 and 45, and is greatest between the ages of 45 and 60. The reason for this is evident as it is the period in life of nervous and cardio-vascular disease, the structures of seeming predilection of tertiary syphilis.

When we consider the effect of treatment on the prognosis of syphilis, we find that it is one of the few diseases in which the artificial factor of specific medication may be claimed to exert a greater influence on the course of the disease than that exerted by the natural body resistance. Then, we may consider the effect of treatment on the prognosis of syphilis from the standpoint of the three great periods in the course of the infection: primary, secondary, and tertiary. It has long been accepted that the earlier treatment is begun, after the diagnosis is established, the better is the prognosis. Then, we cannot too strongly urge the use of the dark field examination to demonstrate the spirochetes as a means of diagnosis as soon as the chancre appears. We can well agree with one modern teacher who frankly states that if the medical students were taught the proper use of the microscope, the local, and blood Wassermann reactions they would be much safer servants of the public than with their present equipment of half-truths about induration, erosion, multiplicity, painlessness, etc. The physiognomy of the chancre shall always be of interest as to the technique of exact inspection and logical diagnostic deduction; but, as a basis for real diagnosis, it belongs to the era of pre-spirochetal syphilis. It is now a laboratory consideration. With this early diagnosis, then, we are afforded our great chance. After the appearance of the chancre there is a period of a week or ten days which we may call the golden opportunity in the treatment of syphilis,—the period in which the Wassermann reaction is negative and the disease has not become too generally diffused. Theoretic consideration suggests this to be the time when we have the best prospects of absolutely destroying the infection, and practical experience teaches this to be a correct supposition. With correct and heavy treatment the disease in this period can be quickly and radically cured. We must not depend upon this, however, and this early diagnosis should save the patient nothing except perhaps his future health. The question of abortive cure here comes up and affects the general prognosis of syphilis in no small way. There is little doubt that the results of abortive treatment have placed it in the mind of the true clinician as an obsolete conception. If the syphilis could be weighed on the scales and so much syphilis call for so much arsenic the question would be simple. Since syphilis is the true example of relapsing disease this practice may be considered dangerous, and tending towards prognosis unfavorable to the best welfare of the patient. There are many things closely associated with the treatment that very much affect the prognosis of early syphilis. Among these, as has already been mentioned, the doctor must understand the patient himself with all his desires, aversions, and peculiarities. He must also learn something of the ability of his patient to live with his syphilis, how he can tolerate treatment, and something concerning his ability to carry out treatment as planned for him. Since the prognosis is so closely affected by the type and amount of treatment in early syphilis this should be pushed to the tolerance of the individual if

lasting and thorough results are to be expected. In all syphilis the element of natural resistance of the patient and his ability to produce immunity is very important when we come to consider the ultimate outcome of his infection. Some immunity can be made and it behooves the clinician to give his patient the benefit of this. In a discussion of this subject last year, I called attention to the Herxheimer reaction as an aid to treatment. We have been taught, since the advent of specific medication in syphilis, to avoid all semblance of what has been called therapeutic shock—the Herxheimer reaction. I have reported a series of cases of early syphilis in which this reaction was produced purposely and found to be of great benefit to the final outcome of the cases. It is definitely known that dead bacteria in the system liberate endo-toxins or antigens which in turn stimulate the production of antibodies. Then, in the early case of syphilis when the patient is literally swarming with spirochetes, if he is given a dose of salvarsan large enough to produce a Herxheimer reaction—to kill enough of his spirochetes to give a sharp bodily reaction, he can be made to vaccinate himself, so to speak, against his own disease. He will have the same type of reaction—with a mild chill and temperature—that is seen when a patient is given a large dose of dead typhoid bacteria as in typhoid vaccination. I find that the patients who have this reaction in the treatment of their early syphilis require less treatment and become negative sooner and stay negative longer than those cases in which this reaction was carefully avoided as formerly taught. With equal surety the Herxheimer reaction should be avoided in late syphilis because here the basic pathology is entirely different and the activation of it when localized may produce dangerous complications. Then, in early syphilis the treatment should be vigorous and free from rest for at least the first year for in this period the cure is made.

A general consideration of the prognosis of late syphilis is a much more discouraging study. Here we enter the case when the destruction has already been started or accomplished and our prognosis depends upon its location and extent. A safe rule here is to go slow and observe much. In this stage we must forget the syphilis and treat the individual. Much has been written about the "normal syphilitic" and it is a common experience for the clinician to see a patient who is getting along nicely with old syphilis until his treatment is started. The cure at best is dubious, and, to get a negative Wassermann reaction, is only misleading; it is no evidence in old syphilis. In late syphilis we must rely on drugs of less spirochetacidal value: mercury, potassium iodide, and arsenic late in the course of treatment, if ever. Since syphilis has a predilection for the cardiovascular system it maye be said that here is where it reaps its toll and the study of this phase of syphilis constitutes the most interesting chapter in the whole field of syphilology. In the aorta, the changes come in the media and when of sufficient magnitude announce themselves by a soft diastolic murmur with varied pains. Many lesions of syphilis heal with the greatest kindness but here the story is discouraging and the average span of life after symptoms are noted is about four years. Our hope is to prevent rather than treat. In the face of a negative Wassermann with a suspicious history and symptoms it is bad practice to employ arsenic as a therapeutic test. This procedure should be discouraged as dangerous, as great damage can be done to a syphilitic heart with arsenic.

As we come to consider the central nervous system involvement in relation to prognosis, we find another chapter in syphilis which is discouraging. It has been said by many an accurate observer that any man who develops an Argyll-Robertson pupil is in serious trouble. He is riding for a fall; tabes, paresis, or cerebrospinal involvement may be his lot. The most frequent is a menningitis involving the middle fossa, and this and all syphilis that is localized in the central nervous sytem give us our best prognosis. In all cases where the pathology is disseminated the prognosis is bad. Here, as in all syphilis, the greatest aid to a favorable outcome is an early diagnosis and the instituting of proper treatment. The Wassermann reaction in the spinal fluid is of great value in predicting the outcome of an involvement in the central nervous system. There is nothing more horrible than a true picture of paresis, and when this stage is reached, the prognosis at best is very unfavorable. In tabes, the expectancy from treatment is different. Eighty-five per cent of the cases of central nervous-system-syphilis, and especially tabes, have some sign in the pupil five years before symptoms are noted. The loss of the

light reflex is most constant. Pain precedes the loss of the tendon reflexes and there is much hope before this process of destruction is complete. In both tabes and paresis, we can promise improvement in the symptoms and general condition of the patient and many of these patients return to their occupations. We may not make them but 40-60% efficient but this is better than allowing them to be 100% dependent and require two other people to care for them.

The effect of other disease upon the course of syphilis has demanded attention and is of considerable interest. The individual who has other disease has truly a double burden when he contracts syphilis. It is possible that this may render his syphilis worse but in my limited experience I have not found it so and the ability of the patient with chronic disease to withstand syphilitic infection is surprisingly good. On the other hand the syphilis seems to exert an unfavorable influence upon the existing disease. The engrafting of syphilis upon pulmonary tuberculosis is theoretically a bad combination, but practically, it does not seem to be the case. On the other hand, diseases of the viscera and nervous system are not nearly so compatible with syphilis as it is a seeming habit of syphilis to settle on already damaged structures in this area.

The ideal patient to resist syphilis is the individual of sound body and good physical inheritance who lives a rational life. Natural resistance to syphilis without question is variable among apparently normal men, but, as a rule, the patients in whom we usually see the most serious forms of late syphilis, with the exceptions of tabes and paresis, are our dissipated vagabonds. The next worse is the man about town without domestic obligations or the sense of responsibility for them, and who has not the intelligence or will to follow instructions, or to accept the slight inconvenience of proper treatment. When he reaches middle life his syphilis collects its toll and produces its destruction in the nervous system, in the arteries, the liver, or some other vital structure. The great Osler put syphilis down as first among all the medical causes of death and it has lately been termed "the pale horror." At best, then, the destiny of the syphilitic is studied with anxiety and is held in the laps of the gods. The field is fertile and still awaits the attention of a brighter investigating mind.

CLINICAL ALLERGY — SOME FACTORS GOVERNING DIAGNOSTIC AND THERAPEUTIC PROCEDURES

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While the advent of allergy as a speciality in medicine has been relatively recent, many of the phenomena concerning it were known for years. As in many other instances, general interest in this subject has been accentuated by a term which has caught popular fancy. While the frequency of allergy is very generally recognized today, this is not true of many of the principles that govern diagnostic and therapeutic procedures. Therefore, some of the more important of these principles shall be considered at this time, since their understanding by the general practitioner is just as essential to the successful practice of allergy, as is detailed knowledge of the subject by the specialist.

I. TERMINOLOGY

The term "allergy," originally used by Von Pirquet[1], designated altered reactivity, i.e., a second application of the same substance, or one closely related, was toxic, whereas initial contact was innoxous.

Today, however, the term is used loosely by clinicians[2] to designate all forms of hypersensitiveness except anaphylaxis in experimental animals, and is a word without scientific meaning. Hypersensitiveness[3] is a term which includes all forms of specific sensitization, therefore the nomenclature of the allergic diseases may be arranged as follows:

I. HYPERSENSITIVENESS

1. Anaphylaxis — sensitivity in experimental animals.
2. Allergy—sensitivity in man.
   a. Atopy.
   b. Hypersensitiveness of infection.
   c. Contact sensitization.
   d. Drug and serum sickness.

There are definite immunologic and clinical features that characterize each form of allergy, the knowledge of which is a prerequisite to correct clinical procedure. Coca[4] has emphasized this in the statement: "Specific sensitiveness is an immunologic disease to the understanding of which two keys are necessary. The first

is the idea of *specific mechanism*, and the second is the idea of the *shock organ* (Doerr)." The conception of *"mechanism"* of reaction is extremely important for it is upon this basis that allergy is differentiated from other disease, and the various types are defined.

The idea of mechanism can be illustrated in the case of three sisters who ate chocolate candy. The one ate an excessive amount, while the other two took average portions. The following day all three had abdominal pain followed by diarrhea with mucus. On continued study it was found that one had symptoms because of a *carbohydrate intolerance*, that is, she could not digest normal amounts of carbohydrates; the second had distress when she over ate because *undigested carbohydrates* passed down into the lower bowel, where fermentation occurred, while the third sister was *allergic* to chocolate. The difference between these three reactions to the same food, all identical in so far as clinical features are concerned, is in the *mechanism* by which symptoms were produced.

II. FORMS OF ALLERGY

(*A.*) *Atopy*:

Atopy includes those allergic diseases subject to a hereditary influence. The incidence, the age of onset, the site of reaction and the clinical forms all being influenced by this factor.

Testing is done by the scratch and intradermal method and gives specific skin reactions in about 50% of the cases, and is the only means of determining by skin testing, the specific factors in the atopic diseases. Since passive transfer can be made, testing may be carried out in a second individual when desired.

Clinical atopy includes two diseases in their entirety, that is hay fever and bronchial asthma and some forms of headache, dermatitis, mucus colitis, gastro-intestinal disorders, bladder irritation, Meniere's syndrome, epilepsy, urticaria, etc.

The diagnosis of specific sensitization in those diseases where atopy is only accasionally a factor, should not be made, unless, one has been able to reproduce the original symptoms with one or more specific products. These diseases will be briefly reviewed at this time.

1. *Headaches*: Atopic sensitization is responsible for three types of headache: (a.) Those secondary to allergic reactions in the nose and sinuses. These may be due to either foods or inhalants; (b.) the headache of general allergic reaction which usually follows an overdose of a pollen extract, or is secondary to contact with an unsuspected allergen, and (c.) migrainous like headaches.

The probability of migraine being an atopic manifestation originally suggested by Vaughan[5] in 1927, is still an unsolved problem. Clinical migraine is a symptom, not a disease, and there are many precipitating causes other than allergy. Thus far, no one has offered proof that the true migrainous individual has an atopic hypersensitive status or that the mechanism of symptom production is identical to the known atopic diseases. There has been a great deal of confusion between migraine and headache due to allergy because in both instances, they are familial in nature, recurrent, paroxysmal and exhibit many symptomatic features in common. It has been shown[6] that the symptoms manifested in various attacks are not of diagnostic aid but that the recurrence of the headache is of some prognostic value. Patients with headache only at the menses, those with periodic attacks, that is 14 to 20 days, and those with ophthalmoplegic symptoms have not been relieved, to my knowledge, by allergenic management.

The headache patient most apt to benefit by allergic study is the one with frequent irregular attacks, in whom there are other atopic manifestations and whose family tree exhibits atopic diseases as well as recurrent headache.

2. *Gastro-intestinal Diseases*: Atopic sensitization can account for almost any type of symptom in the enteric tract and often simulates various syndromes such as chronic appendix, choleocystitis, etc. The mimicry of other lesions is quite superficial, according to Duke[7], and should present no diagnostic difficulties. In considering allergy as a factor in gastro-intestinal disorders it is important to remember that, (a.) it is only one of many possible causes of the same kind of symptoms; (b.) it is so protean in expression that it must be considered in the differential diagnosis of all forms of enteric disease, and (c.) that if one will consider its probability he will seldom fail to make the diagnosis.

3. *Skin Manifestations*: Infantile eczema, eczema in an adult who suffered with the disease in infancy and urticaria may

be due to atopic sensitization. Scratch and intradermal tests are to be employed in skin testing these individuals. Patch tests if positive are irrelevant to the atopic manifestations, although one should bear in mind that both atopic and contact sensitivity may exist in the same individual and produce skin lesions at the same time. Very often abrasions present in the eczematous skin admit products which cause local reactions and thus give a false impression of contact sensitization.

Urticaria is one of several primary reactions of the skin to irritation, and like migraine, it is a symptom and not a disease as is so often intimated. Urticaria is due to allergy in less than a third of the cases in general, being a factor most often in those cases with other allergy and a family history of such diseases.

In the group of diseases in which atopy is sometimes, but not always a factor, one can aid the diagnostic problem by three studies. The first, is the analysis of the family tree for other types of atopy. The second, is a review of the symptoms of childhood, there frequently being different allergies then than in later years. The third, is the elicitation of signs indicative of sensitization, that is, frequent atypical colds, sneezing, rhinorrhea, nasal blocking and itching of the nose, eyes, ears, roof of the mouth, back of the throat and sometimes between the shoulder blades. It must be remembered however, that these are only presumptive, not direct aids to the diagnosis.

(*B.*) *Hypersensitiveness of Infection*:

There are two diseases, tuberculosis and ringworm in which this allergy has been studied in detail. The latter is illustrated clinically by the trichophytid eruption on the hands secondary to the trichophyton infection of the feet. Very often this eruption is considered as eczema, an error that can be avoided if examination of the feet is a routine procedure in these patients. Testing can be done by all three methods, scratch, intradermal and patch, but their interpretation is difficult and beyond the scope of this paper. Food sensitization may aggravate this lesion and the elimination of offending foods may account for considerable improvement[7], but this does not mean that food allergy is a primary factor.

(*C.*) *Contact Sensitization*:

This form of allergy is not influenced by heredity, 70% of the white race being susceptible[8]. Sensitization occurs in the skin, gastro-intestinal and bronchial mucosa.

Testing should be done by the contact or patch method since it is the only one that will give specific reactions. Many of the delayed scratch tests are actually due to contact sensitization.

Clinically, this allergy is responsible chiefly for dermatologic manifestations, but there is some evidence to indicate that it may account for lesions in the gastro-intestinal tract[10] and the bronchial mucosa[11]. The cutaneous eruptions include occupational dermatitis, dermatitis venata, dermatitis medicamentosa and drug reactions of the exanthematous type such as arsphenamine or mercury dermatitis.

Since the term "allergy" is a common denominator for all forms of sensitization in man, one should not use the term to describe features of hypersensitiveness unless they are common to the group. Thus, it is erroneous to say, "allergy is inherited," for this is true of only one form, atopy. In the same vein, the terms "allergic migraine," "allergic eczema," "allergic dermatitis," or "allergic headaches," etc., are incorrect. A clinical designation should not use descriptive adjectives that include etiologic speculation. If there are certain clinical features that distinguish one headache or one dermatitis as being allergic, apart from the others, this would be permissible but such is not the case.

III. THE LIMITATIONS, USE AND ABUSE OF SKIN TESTING

The diagnosis of the specific exciting causes of the allergic diseases is accomplished by three methods; the history, skin testing and clinical observation. These three diagnostic procedures are interdependent and necessary studies in the establishment of the etiologic factors in any case.

Because of the general interest in testing and its frequent use as a diagnostic measure, it seems well worth while to consider some of its limitations, its use and abuse.

(*A.*) *The Limitations of Skin Tests*:

This procedure as a diagnostic measure has some very definite limitations which may be summed up as:

1. It is not possible to determine the

presence or degree of clinical sensitization by skin tests.

2. The specificity of the various reactors cannot be determined by this method.

3. They are not a means of diagnosing whether or not a patient is an allergic individual.

4. The reactions are quite variable, not only in different areas, but in the same location on repeated trials.

5. It is impossible to test a patient and prove any sensitizations unless symptoms are induced and these may vary from those resulting from normal contact.

These statements are ably supported by reports in the literature[2] and their practical value is this: The cutaneous reactions of an allergic individual is one form of sensitization and it may not be related to any other allergic phenomenon. In other words, the patient may be skin sensitive but not to the actual cause of his trouble. He may have cutaneous reactions to all the products responsible for his symptoms, but even then the specificity of each reactor is left in doubt and must be determined clinically. He may be exceedingly sensitive to one or more products with consistently negative skin tests. Finally in the case of dermatologic manifestations one must first determine the form of sensitivity responsible for the lesion before he can properly evaluate the skin tests, for there may be scratch and intradermal reactions in patients whose disease is due entirely to contact or vice-versa.

(*B.*) *The Abuse of Skin Tests*:

The abuse of skin testing may be summarized as:

1. The attempt to evaluate the probability of allergy in a patient by this means.

2. When patients are considered specifically sensitive to those products that cause cutaneous reactions.

3. The inclusion of positive skin tests in case reports as though they were actual clinical sensitizations.

4. When repeated testing is considered a means of making the specific diagnosis.

(*C.*) *The Use of Testing*:

In view of the statements just made, which are supported by ample evidence in the literature, one might inquire as to why skin testing should be done at all.

Skin reactions, properly interpreted, provide one with a point of departure[3] in the therapeutic regime. They are not over 50% accurate in all allergies[3], but in seasonal hay fever they are specific in approximately 85% of the cases. If one will interpret reactions in light of the history their diagnostic value is definitely increased, but clinical testing alone establishes the etiologic factors in any case of allergy.

Because some allergists have organized commercial laboratories through which they propose to diagnose cases by mail, it should not be assumed that the determination of the specific causes of allergy is a simple procedure, for it is one of the most difficult in medicine. Both physicians and patients should know that testing is only an initial procedure, of itself of little or no value, and that it may be a matter of weeks or months of clinical observation and study before a single exciting factor is discovered.

IV. THE IMPORTANCE OF SECONDARY SENSITIZATIONS IN SEASONAL HAY FEVER CASES

Vasomotor rhinitis (hay fever) of either the perennial or seasonal type is a local manifestation of a constitutional disease, and this fact should be considered in diagnostic and therapeutic procedures for these patients.

The etiologic factors in seasonal hay fever may be either primary, that is symptoms occur with each contact, or secondary, that is symptoms are not induced unless other agents have first irritated the nasal mucous membrane.

The evaluation of the etiologic factors in hay fever of the seasonal type is not as simple a process as it might appear. This statement is supported by the fact that only 7-46% of the patients obtain complete relief of their symptoms based on ordinary disgnostic procedures[4]. One must bear in mind that hay fever of a seasonal onset or type, may be due to other agents than pollen. It may be due to feathers[5], orris root[6] or to foods[5]. Last year I saw a patient who had previously been diagnosed as a pollen sensitive individual because the symptoms began on the first day of the pig weed season. When her symptoms were studied with the idea of determining not only the type, but their cause, food was incriminated and on eliminative

treatment she made very definite and satisfactory improvement.

HISTORY TAKING IN HAY FEVER

While the sudden onset, the period of occurrence and the characteristic symptoms, easily identifies the disease entity of hay fever and suggests the causative pollen groups, these features have no diagnostic value in the case of secondary sensitizations. For this purpose a study must be made of the relation of symptoms to meals, occupation, dusts and meterological changes. A correctly taken history will indicate whether or not any of these etiologic groups just mentioned, play a part in the production of symptoms.

SECONDARY SENSITIZATIONS

I. *Pollen*:

It is quite rare to find patients with hay fever from August fifteenth until frost, skin sensitive to only the rag-weed pollen. In some instances their reactions to the other pollen groups are as definite as are those of the rag-weed. In such cases the choice of products to be used in treatment is somewhat difficult, but if the patient is absolutely free of symptoms until August 15th, one probably should not interpret all the skin reactions as etiologic. If, however, the patient has mild symptoms during the latter part of July, or during the entire summer, and marked ones after August 15th, the second and sometimes the third pollen groups should be used. The indiscriminate use of two or three pollen extracts on the basis of skin reactions only, is to be condemned, not only on account of the expense, but as being unscientific therapy.

II. *Food*:

Patients with food allergy, not skin reactions to food, will have an increase of symptoms in direct relation to the ingestion of such foods. The interval between eating and the appearance of nasal signs may vary from a few minutes to several hours and in some cases may be more or less continuous.

III. *Dust*:

Orris root is a factor in many cases and is evidenced by an increase of symptoms in crowds or when in beauty parlors, barber shops, etc.

House dust sensitization is manifested by an increase of nasal irritation when the patient is in certain rooms or near some article of furniture, or when dusting or sweeping is going on.

Pyrethrum is made from a composite plant and it is often responsible for symptoms in those sensitive to the rag-weeds. It is used as an insecticide, either in liquid or powder form.

IV. *Animal Danders*:

Although skin reactions are frequent, relatively few patients are sensitive to animal danders, and when so, symptoms are increased over night, (feathers) or on contact with the animal in question. Rare animal contact through overstuffed furniture, rugs, or clothing is not as infrequent as might be assumed.

V. *Causes for Failure in the Treatment of Seasonal Hay Fever*:

The discrepancy between the theoretical and actual results of specific therapy in seasonal hay fever patients is a subject of much importance, since failure is not that of a therapeutic principle but of its application.

FACTORS CONCERNED IN THERAPEUTIC FAILURE OF HAY FEVER

I. *The Avoidable Errors* (Personal Factor):

1. Incorrect diagnosis:
   a. Errors in the differential diagnosis:
      1. Condition not allergic, i.e., infection, etc.
      2. Allergic case complicated by:
      a. Infection.
      b. Mechanical conditions, spurs, septum deviation, etc.
      c. New growths; polypi, etc.
2. Therapeutic failure due to various factors as:
   a. Improper dose:
      1. Overdose.
      2. Insufficient dose of potent material.
      3. Pollen extracts not potent.
   b. Treatment schedule inadequate; being based upon empirical rules, instead of upon a clinical knowledge of atopy.
3. Failure to evaluate secondary sensitizations in treatment:
   a. Pollen, other than the primary ones.

b. Foods.
c. Dusts.
d. Animal danders.
e. Incidental proteins.

II. *Unavoidable Causes of Failure*:

1. Inability to build a tolerance in the patient".
2. Contact with massive amounts of pollen.

It is seen that avoidable errors account in the most part for failure in the treatment of hay fever, and of these, secondary sensitizations are probably the most important. Since testing with inhalants is more satisfactory than with foods, we would expect that the latter are the most difficult to diagnose.

Some foods cause hay fever symptoms only during the pollen season, while others induce symptoms with each ingestion, but because of their periodic use, for example watermelon, have seasonal characteristics. Again food sensitizations may interfere with specific therapy. Eyermann has shown me a patient sensitive to wheat in whom adequate dosage of rag-weed pollen extract could not be given until it was eliminated.

Food sensitization is at the same time the most neglected and over estimated factor in patients with seasonal hay fever; it is neglected because sufficient effort is not made to determine the cases in which it is a factor; it is over estimated because routine food tests when positive, are so often considered significant without regard to clinical facts.

Of the unavoidable causes of failure in hay fever therapy there is one, contact with massive doses that might well be discussed. Physicians should govern their estimation of relief from pollen therapy on the basis of the pollen count in their community. Fortunately, a very satisfactory pollen survey has been completed and these figures are quite reliable since all slides have been studied under identical conditions, thus eliminating the personal error.

COMPARATIVE POLLEN COUNTS FOR THE YEARS 1929, 1930, 1931 and 1932"

1929*		1930*	
Kansas City	12,806	Indianapolis	7,115
Omaha	12,085	Houston	5,278
Indianapolis	11,439	Kansas City	4,055
Wichita	10,123	Wichita	3,979
Oklahoma City	6,308	Buffalo	3,948
Moorhead	6,267	Louisville	3,934
St. Louis	5,686	Omaha	3,790
Dallas	4,634	Moorhead	3,501

1931*		1932*	
Buffalo	14,675	Indianapolis	14,409
Louisville	11,355	Buffalo	12,386
Indianapolis	9,998	Omaha	11,207
Milwaukee	7,458	Kansas City	9,187
Omaha	5,936	St. Louis	8,619
Pittsburgh	5,734	Dallas	8,176
St. Louis	5,573	Minneapolis	6,984
Kansas City	5,492	Louisville	5,438

*The eight highest total counts of the season.

It can be seen that patients living in Oklahoma City can expect better results than those in Wichita, Kansas City, Indianapolis or even Omaha. This is accounted for by the fact that short ragweed increases as we go east, which is more responsible for the high pollen count than in giant rag-weed.

SUMMARY

1. Hypersensitiveness in man is commonly designated as "allergy." There are four forms, differentiated on the basis of "mechanism" of reaction.

2. The diagnosis of the specific exciting causes of allergy is based upon three interdependent studies, skin testing, the history and clinical observation.

3. Skin testing is not a means of specific diagnosis since it is only 50% accurate. It provides one with a point of departure in treatment if correctly interpreted.

4. Seasonal hay fever is a local manifestation of a consitutional disease and should be considered as such from the standpoint of diagnosis and treatment. Uncomplicated cases of this disease are rare, judged by reports of complete relief.

5. History taking in seasonal hay fever should concern itself not only with the recognition of the disease entity, but also with an evaluation of the exciting causes, more especially the secondary sensitizations.

6. Causes of failure in the treatment of seasonal hay fever are for the most part avoidable errors.

7. The prognosis of specific therapy in hay fever varies with the pollen count of each community.

927 Argyle Bldg.

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DISCUSSION: *Dr. Fannie Lou Britton,* Oklahoma City.

I have certainly enjoyed Dr. Rinkel's paper. It has been a complete and timely paper. It is indeed one that we really need. If anyone here is doing allergy, they know that we do pay too much attention to the testing. I had a patient who tested out sensitive to thirty things. She was sensitive to wheat, eggs, milk, meat, cauliflower and irish potatoes, but more sensitive to wheat and milk than eggs. She showed a marked reaction from cauliflower or anything with eggs in it.

I agree with Dr. Rinkel that our poorest results are with patients who have headaches at the menstrual period. These cases have been my poorest results.

It is very important to follow these allergic cases through. Too often we do not follow up our cases, and they are the ones who count for much of our poor results.

I don't believe I can say more, because Dr. Rinkel has given you such a complete paper.

Dr. E. E. Baum, Tulsa.

I want to congratulate Dr. Rinkel in that he was able to come out in the open and clear this allergic situation up. This has been a complicated thing, and we have not been able to find out what all this is about. I believe this has been the most instructive talk that I have ever heard in the field of allergy.

Closing Discussion: *Dr. Rinkel.*

What I had to say here was entirely because that is the way I have found it.

I think that it has been a courteous thing of the men here to ask me to come and read this paper. I thank you.

CANCER-LIKE LESIONS OF THE UTERINE CERVIX

Richard W. TeLinde, Baltimore (Journal A. M. A., Oct. 14, 1933), states that he has observed several uteri which have been removed unnecessarily because of an uncertain histologic diagnosis of a lesion of the uterine cervix diagnosed erroneously as "precancerous." For a lesion to be considered "precancerous" it must be established that the incidence of carcinoma developing in such cases is greater than that of carcinoma in persons free from such a lesion. As an example of a lesion now definitely recognized as precancerous one might cite leukoplakia of the vulva. A review of the literature reveals many reports of cancer-like lesions of the cervix. As has been repeatedly emphasized by Meyer, the question of whether a lesion is malignant or benign can be determined only by the patient's subsequent clinical course. The author presents a series of twenty-four such cases followed clinically and feels that the results are of value in determining whether or not any of these cancer-like lesions subsequently developed into actual cancer and whether the term precancerous may properly be applied to them. The material on which his study is based is derived from histologic lesions encountered in the routine examination of cervical tissue coming to the laboratory. The microscopically suspicious lesions were found in twelve instances in cervical polyps which were simply twisted off, no attempt being made to remove the tissue radically about the base of the polyp. The lesions were accidentally found in tissue removed at trachelorrhaphy in three and at amputation of the cervix in one case. In one instance the tissue was removed for biopsy of a suspicious cervical lesion and in one instance by curettage. In six cases the routine examination of cervices removed by panhysterectomy showed cancer-like lesions. From all such cases several blocks were cut and several sections studied from each block in an attempt to find unmistakable cancer in the same cervix, with the idea, particularly, of tracing continuity between the cancer-like lesions and true cancer. In none of the instances was definite microscopic cancer encountered. In this way the author has attempted not only to check up his histologic diagnosis but also to learn the true significance of questionable cervical lesions. There was no evidence that any of these patients subsequently developed carcinoma of the cervix.

CASE REPORTS ILLUSTRATING SEVEN MANIFESTATIONS OF ALLERGY IN CHILDREN*

RAY M. BALYEAT, M.A., M.D., F.A.C.P.
OKLAHOMA CITY

I wish to present this morning seven children representing the following seven manifestations of allergy:

(1.) Seasonal hay fever
(2.) Bronchial asthma
(3.) Urticaria
(4.) Migraine
(5.) Eczema
(6.) Colitis
(7.) Epilepsy

The first four symptom complexes mentioned are frequently seen by the pediatrician and the general practitioner and are probably always due to a specific sensitization. The fifth and sixth conditions mentioned are likewise frequently seen by the pediatrician and not uncommonly have allergy as the exciting factor. The seventh case is being demonstrated with an idea of showing that at least some cases of epilepsy are due to specific sensitization.

SEASONAL HAY FEVER

In the Great Southwest seasonal hay fever in infants and children is by no means rare. Some of the pediatricians in the East remark in their writings on allergic diseases that seasonal hay fever is rarely ever seen under five years of age and is not common in children. Their statements concerning the children in the East and North are probably true, but they would not hold in the territory in which we live. In our territory the pollen content of the air is from 40 to 300 times greater than that of the East and North. The following case is presented to illustrate a common type of seasonal hay fever seen in children.

Case 1. Betty Sue N., 2½ years old, was brought to the Clinic on account of an eczema which had existed since 3 months of age. The following family history was elicited:

One uncle with hay fever; two cousins with hay fever; paternal grandmother with hay fever; maternal aunt had eczema.

Skin tests revealed the following:

Wheat	***
Eggs	**
Milk	*
String bean	**
White potatoes	**
Peas	**
Asparagus	**
Onion	*
Plum	**
Banana	**
Silk	****

Pollens negative.
Animal dander negative.

The foods to which this patient was sensitive, except small amounts of wheat, were removed from her diet, with about 80 per cent freedom from symptoms. Wheat was entirely taken out of the diet, with complete freedom.

We did not see this patient for a number of months. On the 29th of August, she was brought to us with typical symptoms of seasonal hay fever of seven days duration. On testing her with pollen we found the following:

Giant ragweed	***
Short ragweed	****
Western ragweed	****

Discussion: Here is a patient with an ancestral history of allergy, who manifested a sensitivity to food by an eczema rash at 3 months of age, who had the ability to become sensitive to animal dander and pollen, and showed evidence of the sensitivity to pollen nine months later. Hay fever under five years of age is by no means rare in the Southland and the Great Southwest.

BRONCHIAL ASTHMA

The following case illustrates the importance of food as an etiologic factor in many children who suffer from asthma.

Case 2. Betty Jo M., 6 years of age, was brought to us when she was five months old with a history of severe asthma since three months of age. A nurse brought the child, as the mother was sick, and reported to us that she was on the mother's breast for a while, but had a great deal of colic; was changed to cow's milk at 3 months of age and one week later began to have very severe attacks of asthma. At the time we saw her she was on modified cow's milk.

In testing we found the following:

Whole wheat	****
Wheat leucosin	****
Wheat globulin	****
Wheat proteose	****
Wheat glutenin	****
Wheat gliadin	****

All other foods negative.
Animal dander negative.
Pollen negative.

The question naturally arose as to where the child was obtaining wheat. The nurse told us that a special cow was being kept, fed on bran, and I suggested that in all probability the wheat was coming down through the cow's milk. This child was placed on cow's milk coming from a composite milk supply from cow's fed on green wheat pasture, with freedom from symptoms.

We have seen this child off and on since that time, which covers a period of four years. She has had a number of attacks of asthma each year, and each

*Clinics presented before the General Assembly, at the Fall Conference of the Oklahoma City Clinical Society, November 7, 1930.

time the attacks have been traced to pieces of bread or wheat products of some sort that she has eaten.

At 3 years of age we found her sensitive to eggs and also to feathers. Eggs have been kept out of her diet and she has been kept off of feather pillows. This child is so sensitive to wheat that the father reports that a piece of bread the size of a grain of wheat would cause her tongue to swell and would produce an attack of asthma.

The father of this child is an asthmatic patient of ours.

Discussion: **This child represents a case of asthma coming on early in life, due to wheat. Later she became sensitive to other foods and to animal dander. Born with this ability there is no reason why she should not become sensitive to pollen later and have hay fever, or have her asthma complicated with a pollen sensitivity. She represents a case of being so sensitive to food that a very small amount of wheat will produce asthmatic symptoms. Asthma in children is very common, and food is usually one of the factors in patients who develop symptoms before ten years of age, therefore such patients must be carefully studied from the standpoint of a food sensitivity.**

URTICARIA

Urticaria in children is frequently associated with other allergic conditions, as the following patient demonstrates.

Case 3. Lynn L., age 4, was brought to us with a history of asthma of two years duration.

One paternal uncle had asthma; no other allergic history.

History and physical findings revealed a typical asthmatic child.

The following history, which proved to be of great interest, was given:

When the child was a mere babe he developed eczema of a very severe type, which seemed to be very difficult to control. He was taken to a number of dermatologists in various sections of the United States, but treatment seemed to aggravate symptoms. and the father mentioned that not until they quit all treatment did he get well. At 2 years of age his asthma developed. From time to time during the time that he had eczema he also had urticaria fairly severely.

After making some protein tests we went back again to our history and found that at the time his eczema and urticaria disappeared the child was of sufficient strength and age that he absolutely refused to take eggs in any form, or anything that eggs went into. The parents reported that he apparently could taste the smallest amount of egg that would be put in any food.

Testing revealed the following:

Duck feathers	**
Goose feathers	**
Chicken feathers	****
Cattle hair	**
Horse dander	**
Dog hair	**
Cat hair	**
Egg whole	****
Egg yolk	****
Egg white	****
Salmon	**
Peanut	****
String bean	**
Giant ragweed	****
Short ragweed	****
Western ragweed	****

The foods to which this boy was sensitive were entirely eliminated from the diet. His mother was advised concerning protecting him against feathers, and he was desensitized with the three ragweeds. At the end of the second year after desensitizing was instituted, while we were still caring for him, he developed urticaria, and the mother wrote us concerning it. She asked if I thought that the desensitizing was causing his hives. I wrote and told her that he had been on the same size dose for months and it would be almost an impossibility, and that I thought he was getting some egg—to which she replied that she knew that he was getting no egg. Two or three letters came about the condition, as it was bothering him a great deal, and each time I replied that I thought he was getting egg. She finally came in and told us that she had been doing some investigating work and had reached the conclusion that if egg was getting in the boy's diet that it could be only through baking powder which she had been using. She had written the companies and found that one baking powder contained egg white; another baking powder that she had been using did not, and when she would use the one containing egg white her boy would have hives as long as she would continue to use it. When she would not, her boy would be free from hives.

Discussion: **This case illustrates the fact that patients may be so extremely sensitive that the minutest quantity of certain foods may produce rather marked allergic manifestations. This case illustrates the fact that extremely small quantities of a food may cause allergic symptoms.**

MIGRAINE

Migraine in children is usually unrecognized by the general practitioner and frequently by the pediatrician.

Case 4. Louise K., age 5, has suffered from typical migraine since two years of age, has a wet nose, and has had typical attacks of asthma since 6 months of age.

Mother and maternal aunt have asthma. Maternal grandmother has migraine. Paternal uncle and paternal grandmother have asthma.

A history of asthma since a small child, of a severe type, was given. At about 2 years of age she complained of headache. At the same time she complained of headache she would have abdominal pain and at some times would have temperature. She was taken to the hospital once to have her appendix removed. This occurred during the time that she was having headache associated with abdominal pain. She developed a severe attack of asthma, and therefore the surgeon advised against operative procedure.

We found the following positive factors:

Wheat	****
Milk	****

Plum	**
Pumpkin	**
Potatoes	**
Duck feathers	***
Goose feathers	***
Chicken feathers	***
Horse dander	****
Cattle hair	****
Cat hair	**
Dog hair	**
House dust	**
Giant ragweed	****
Short ragweed	****

This little girl was taken off of milk and wheat and the other foods to which we found her sensitive. The animal danders were thoroughly eliminated, and she is being desensitized with the ragweed. We have observed her over a period of eight months. Since she has been on a diet she has had only one slight attack of migraine, which had previously occurred every ten days or two weeks. She has suffered no abdominal pain.

Discussion: Migraine in children is not uncommon. We have found from a large series of adults we have studied, who suffer from the syndrome known as migraine, that 30 per cent of them develop their symptoms before ten years of age, and another 20 per cent before fifteen years of age. In other words, we know that migraine is common in childhood. The average child complaining of headache in going to his family physician or even the pediatrician would in all probability be referred to the rhinologist or the oculist, or his gastro-intestinal tract would be studied, but migraine would not be suspected. The case has been presented to show that typical migraine occurs in children and that, like in the adult, the syndrome is not uncommonly associated with abdominal symptoms. Not only the general practitioner but the pediatrician should think of migraine when children come suffering from periodic headache, and when the surgeon sees abdominal pain associated with headache, both in children and adults, he should think of a possibility of food sensitivity as a cause of the symptoms of which they complain. Remember that migraine is not uncommon in childhood.

ECZEMA

I want to present this little fellow to show you a type of allergic manifestation that we see commonly in children.

Case 5. F. H., Jr., 2½ years old, was referred to us by one of the pediatricians at 6 months of age. He had suffered from rather severe eczema for two months.

Maternal grandmother has migraine.

On testing him we found him sensitive to the following foods:

Egg whole	****
Egg white	****
Egg yolk	****
Oats	**

The foods to which he was sensitive were removed from his diet, with freedom from eczema symptoms in one week's time. We have observed this little fellow during the last two years and he stays free as long as eggs are kept out of the diet.

Discussion: It appears to us that nearly all cases of eczema in children are based on an allergic background, and most of them are due to a specific sensivity to food. Any case of eczema in children or adults, that has an allergic family history, surely should be studied from that standpoint. You probably are asking me in your own minds, "Should every case of eczema be studied from an allergic standpoint?", and I would answer that question in this way. Every case of eczema in children that has an allergic history should be studied from that standpoint as it is the most logical cause, and those cases of eczema in children, that have no family history of allergy and that have been studied otherwise without relief, should be tested and re-tested for a specific sensitization to food as a possible cause of trouble.

COLITIS

Should we think of a specific sensitivity to food in colitis or abdominal pain in children? We hope to prove by the history that this little fellow gives that we should.

Case 6. Lewis F., age 3. Here is a little boy we saw last summer with a history of eczema since he was first weaned, and a history of colitis since one year of age.

Mother has migraine; father has hay fever.

This boy has been perfectly well except for from twelve to fourteen bowel movements a day, and in the summer apparently infectious in type.

Protein testing revealed the following:

Milk	****

No other foods positive.

Milk was taken out of this child's diet with a history that in ten days' time he was entirely free from any symptoms of mucus or frequent bowel movements. His bowel movements became normal and he is an entirely different child. Only two or three times has he gotten in difficulty, and each time the maid has given him milk in some form. The mother has learned that it takes only a small amount of milk, that is, the milk that goes in puddings, etc., to get him into difficulty.

Discussion: If we can scratch the skin, reaching the second skin, which is comparable to the mucous membrane of the

nose, eyes, bronchial tubes and gastro-intestinal tract, and by applying a small amount of milk protein produce a hive the size of a quarter with a large area of erythema, does it seem logical that this food should go into the gastro-intestinal tract? Does it not seem probable that it would produce swelling of the mucous membrane of the intestinal tract, thereby mucus and frequent bowel movements? I am sure that is what actually happens.

EPILEPSY

The last case I wish to show you today is one that is somewhat unusual but one of which I am very proud, as results have been striking.

Case 7. Francis L., age 13, came complaining of epileptic seizures 9 months ago. He has had hives all his life.

He has one sister with asthma; paternal grandmother has difficulty in taking milk. Her difficulty in taking milk is rather great, that is, it will produce marked headache and marked symptoms of "indigestion," as she says.

This boy is a bright looking fellow. His mother gave a history that during the last 9 months, when this difficulty appeared, he had had two severe convulsions a week, and would give all the classical symptoms of epilepsy, namely, biting the tongue, rolling his eyes, frothing at the mouth, and relaxation of the bladder sphincter. Sometimes he would be unconscious five, ten or fifteen minutes.

In testing this boy we found him markedly sensitive to milk and wheat. Both of these foods have been taken out of his diet. There was also taken out of his diet such foods as chocolate, nuts, and shell sea foods, which was done on general principles. No psychology was used on the boy or the mother.

This boy has suffered no attacks of epilepsy since he was put on the diet.

Discussion: There are a number of authentic cases of epilepsy due to a sensitization to food that have been relieved entirely by food elimination. This is one of them. We have two others. There is no question but what there are a certain number of epileptics whose trouble is due entirely to food sensitivity. The question naturally arises, "shall we test all epileptics?" By no means, but that epileptic child who has an allergic family history certainly should be tested and re-tested for a food sensitivity as a possible factor.

These seven children whom I have shown this morning represent seven manifestations of allergy, six common ones and one that is uncommon. I should like to impress upon you if I can the importance of food as one of the etiologic factors in the cause of asthma in children, and its importance as a secondary factor in seasonal hay fever in children. I hope that I have impressed you with the fact that small amounts of food to which they are sensitive may produce marked symptoms, therefore in taking food out of the diet it should be done very thoroughly. Don't forget when children come complaining of headache, periodic in type, to ask concerning the family tree, because of the fact that it may be a migranious headache. Remember that urticaria and eczema in children are probably in 100 per cent of the cases due to a sensitivity to food, and that colitis and abdominal pain is not uncommonly due to food, and that typical attacks of epilepsy may be due entirely to a food sensitivity and relief may be had by careful elimination of the food or foods to which they are sensitive. Remember also that these children are to become adults, and they retain their sensitivity, therefore these same manifestations of allergy will be seen in adult life, and are frequently seen.

I wish to leave the report of these seven cases before you and let you draw further conclusions.

These clinics discussed by Dr. Isaac A. Abt of Chicago, and Dr. Albert H. Rowe of Oakland, Calif.

GENERALIZED EDEMA OCCURRING ONLY AT THE MENSTRUAL PERIOD

William A. Thomas, Chicago (Journal A. M. A., Oct. 7, 1933), presents two cases of generalized massive edema occurring only at the menstrual periods. He gives the results and clinical picture as he has observed them. However, the migraines of menstruation, as numerous discussions bring out, are in many respects similar. At first he felt that there was the action of a diuretic substance of the anterior lobe. This is quite opposed to the constant diuresis that occurs about three days following delivery, at the time this substance disappears from the urine. The antidiuretic principle of the posterior lobe is well known and used in diabetes insipidus. It has been suggested that this clinical picture is the antithesis of diabetes insipidus. More confusing still is the definite information, brought out recently, that this substance obtained from the urine of pregnant women is of placental, not pituitary, origin. Possibly it is another prohormone activating the anterior pituitary or opposing the antidiuretic activity of the posterior lobe. The author feels that, however complex and interrelated these processes may be, the end-results—edema and diuresis—are functions of tissue thirst, depending on hydrophilic tissue states or the reverse; that is, extrarenal factors rather than any alternation in renal function.

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EDITORIAL

OFFICER RESPONSIBILITY

Now that every county society has elected officers for 1934, it might be well for each of them to give careful consideration to the duties and obligations of their respective offices. Not only is each officer responsible to the members of the county society for the proper conduct of his office, but is also responsible to the state association and its individual members. The county society is a component unit of the state organization and must be conducted as such, with due regard for the Constitution and By-laws of the parent organization and having its progress and welfare always in mind.

The President of a county society is, during his tenure of office, the head of organized medicine in the county and as such must conduct himself with the dignity due such a position. He presides at all meetings and is primarily responsible for their regularity and the programs presented. He will appoint such committees as may be necessary to carry on the work of the society, using his good offices to maintain harmony among its members, represent the society in any outside activities and use his influence to present organized medicine to the laity in its true light.

The Vice-President is, of course, a potential President; if for any reason the President cannot complete his term he will automatically be promoted to this office, consequently he should at all times be familiar with the problems of the society and prepared to take the helm should the occasion demand.

The Secretary—here is the man with a job (not a position) and the success or failure of the county society is to a large extent in his hands. He must keep careful record of all business transacted; a record of membership and moneys received or expended. Ususally it is his duty to give notice of all meetings and he may by his ingenuity be able to greatly stimulate attendance. Promptness in carrying on correspondence and insistance upon the prompt payment of dues with prompt remittance to the State Secretary are of great advantage in the conduct of the State office and will keep the county membership in good standing.

To the Board of Censors is given the responsibility of maintaining a high standard of membership; all applications come before this committee as well as all charges that may be preferred against a member and these matters must be judged with all fairness, keeping ever in mind the high calling of the medical profession and the desire of organized medicine to admit all who are qualified. It is a bad plan to elect an applicant to membership to reform him.

Delegates to the State Association should inform themselves as to the business of the Association, they should carefully study all committee reports as published, they should be familiar with the needs of organized medicine in their respective localities and the state at large and go to the state meeting prepared to

both vote upon and discuss these matters intelligently. By doing these things there will be much less of the time of the House of Delegates wasted and the solution of problems will be not only greatly expedited but more intelligent.

There is nothing new in this editorial—just to remind you of a few well known facts. Some progress will follow your consideration of these matters.

CONTRACEPTIVE LEGISLATION

Physicians and medical societies throughout the United States, no matter which side they take on such a highly controversial subject, are watching with interest proposed legislation before the Seventy-third Congress calling for amendment of the present federal birth control laws. These amendments, commonly known as the "Doctors Only" bills, are Senate Bill No. 1842, sponsored by Senator D. O. Hastings of Delaware, and House Bill No. 5978, introduced by Representative Walter Pierce of Oregon.

This proposed legislation would amend the existing federal restrictions so as to legalize the sending or receiving of contra-ceptive information, instruments and medicines between physicians and the patients, medical colleges and hospitals and from physician supply houses and manufacturers.

Under the present statutes, penalties of heavy fines and imprisonment may be inflicted for transporting any article intended for the prevention of conception or for receiving for distribution to others, any such article that has been transported interstate or by the Government mails. For several years there has been a controversy as to the propriety of the present Federal legislation, as there are many who contend that the Constitution does not grant the power of law to abridge the right of the physician to protect the life and health of his friends and patients.

The sponsors of the "Doctors Only" bills merely seek to place the responsibility for prescribing contra-ceptive action where it rightfully belongs—in the hands of the medical fraternity.

Leading doctors also contend that this change in the statutes will greatly aid in the proper care of cardiac, tubercular and diabetic patients where pregnancy is contra-indicated and where conception would necessitate a therapeutic currettement.

The far-reaching importance of these bills is daily becoming more apparent to American physicians. The passage of these laws will depend largely upon the expressions received from the physicians and there is yet time to express such views to their Congressman or the Senator and Representative mentioned above who are sponsoring these bills to amend the present laws for the interest and protection of the medical profession.

THE PRECANCEROUS CERVIX

In the Cancer Clinic Bulletin of the Massachusetts Department of Public Health is a discussion of the precancerous cervix that reveals some very pertinent facts. No uniform policy could be agreed upon as to just when a lacerated cervix should be repaired, whether immediate repair, operation within a year, only in response to symptoms, or after the child bearing period—all had enthusiastic supporters, but that a torn cervix should be repaired by the time of the menopause all agreed.

The properly repaired cervix is not the one that develops cancer, as is clearly shown in the now familiar study of 5,962 cervix operations reported by Pemberton and Smith, in which careful follow-up disclosed only five known to have developed cancer. Again, of 669 cases of cervical cancer, only twelve had had a repair of a cervix previous to the development of cancer.

Another point not to be overlooked in the development of cervical cancer is the routine examination of all tissues removed in operating on the cervical canal or in curetting the uterine cavity. Attention is called to the fact that of 675 cases of cancer of the cervix, 16, or 2.3 per cent, would have been missed but for the use of the microscope in the hands of one who knew tissue diagnosis.

GUEST SPEAKERS FOR TULSA MEETING

The Committe of the Council to arrange for the Tulsa meeting has been very fortunate in obtaining two internationally known authorities to appear upon the general program. Each of these men will give

an hour on Tuesday and Wednesday mornings.

The first of these speakers is Dr. Charles F. Craig, Professor of Tropical Medicine of the Tulane University School of Medicine. For many years Dr. Craig has been a leader in the study of tropical diseases, such as amebic dysentery. He has written many books on the subject, and has contributed to the outstanding medical encyclopedias on the subject of tropical diseases. Dr. Craig is a retired Colonel in the Medical Corps of the United States Army, and was many years director of the Army Medical School, Washington, D. C., as well as editor of the American Journal of Tropical Medicine. Much of our knowledge of amebic dysentery is the result of his well-known studies.

Our other guest speaker will be Dr. Donald C. Balfour, of the Mayo Clinic, also professor of Surgery of the University of Minnesota Medical School; Chief of Surgery, Mayo Foundation.

The first day Dr. Balfour will talk on "The Duodenum From a Medical and Surgical Standpoint"; and on the second day his subject will either be "Benign and Malignant Lesions of the Stomach and Their Management," or "The Significance of Splenomegaly."

Editorial Notes—Personal and General

DR. R. C. SULLIVAN, Ardmore, is reported ill at his home.

DR. A. L. BLESH, Oklahoma City, is reported ill at the Wesley Hospital.

DR. AND MRS. D. D. McHENRY, Oklahoma City, spent the latter part of January in Florida.

DR. CHARLES E. WHITE, Muskogee, has been appointed county health officer to succeed Dr. E. H. Coachman, who resigned in December.

DR. AND MRS. ELIAS MARGO, Oklahoma City, have returned from Kansas City and Chicago where Dr. Margo attended the meeting of Orthopedic surgeons.

DR. D. O. SMITH, Tulsa, is the new President of the St. John's Hospital staff; Dr. F. L. Flack, Vice-President; Dr. J. E. McDonald, re-elected Secretary-Treasurer.

DR. AND MRS. SAMUEL R. CUNNINGHAM, Oklahoma City, have returned from Chicago where Dr. Cunningham attended the meeting of the American Academy of Orthopedic surgeons.

DR. WILL C. WAIT, McAlester, was elected President of the Staff of Albert Pike Hospital, at their meeting in January. Dr. J. E. Davis, Vice-President and Dr. J. A. Munn, re-elected Secretary.

DR. J. S. ROLLINS, Prague, opened the Rollins Hospital on December 16, 1933. This is a modern ten bed hospital with X-ray and laboratory facilities. Associated with Dr. Rollins are Doctors Frank H. Norwood and Ned Burleson.

DR. C. M. PEARCE, McAlester, Pittsburg county superintendent of health for the past eight years has resigned his commission. Dr. Pearce will study in eastern clinics for several weeks after which time he will establish a general practice in McAlester.

DR. W. K. WEST, Oklahoma City, has been appointed the member of the Council of the Southern Medical Association from Oklahoma for a regular Council term of five years, the appointment having been announced recently by the President, Dr. Hugh Leslie Moore of Dallas, Texas. Dr. West succeeds Dr. Lea A. Riely, Oklahoma City, who, having served the constitutional limit, was not eligible for reappointment.

IF A SUFFICIENT number of candidates are interested, the American Board of Ophthalmology will conduct an examination at Butte, Montana, July 16th, 1934, at the time of the meeting of the Pacific Oto-Ophthalmological Society. Applicants for the certificate should immediately communicate with the Secretary, Dr. Wm. H. Wilder, 122 South Michigan Ave., Chicago, Ill.

ANNOUNCEMENT

The Southern Surgical Congress will hold its fifth annual assembly in Nashville, Tennessee, March 5, 6, and 7. The Andrew Jackson Hotel will be hotel headquarters and the lectures and exhibits will be in the War Memorial Building.

Many distinguished guests from all parts of the United States will participate in this program.

For further information write Dr. B. T. Beasley, 1019 Doctors Building, Atlanta, Georgia.

AN INCOMPLETE STATEMENT REGARDING THREE PUBLIC HEALTH PROJECTS BEING CARRIED ON IN OKLAHOMA

Aside from the usual program carried on for the prevention of disease by the State Health Department, there are at the present time three major public health projects under way in this State, which we believe have been surpassed by no state and equalled by but few. The projects are as follows:

Malaria Control
Community Sanitation
Immunization

The set up for Malaria Control is as follows:

The State Health Department selects competent sanitary engineers to direct the work. Drainage projects are prepared and estimates made as to the probable cost of draining swamps, straightening streams, etc., thus eliminating natural breeding places of the mosquito. When these projects are approved, and there has been approved up to the present time fifty-two, men and teams are drawn from the C.W.A to carry on this work. We are now and have been us-

ing three thousand five hundred men each day and one thousand teams and scrapers.

Community Sanitation, consists mostly in the construction of sanitary earth pit privies of the concrete slab and riser type. One hundred and ninety projects of this nature have been approved. About sixteen hundred men are employed daily in digging pits and pouring concrete and on an average of about two thousand privies are being installed weekly. A great many projects are now on file but have not been approved on account of the uncertainty of when Federal aid may be withdrawn.

A State-wide immunization compaign against diphtheria, typhoid fever and smallpox is being carried on. This work is usually under the supervision of the county and city superintendents of public health, however, any doctor in the State is being furnished the necessary biologics. At the present time we do not have definite figures to offer on the immunization campaign, however, as near as we can figure at this time, about 200,000 children have already been immunized against diphtheria.

The figures will be somewhat lower on typhoid fever and smallpox for the reason that a great deal of work has already been done in this field.

The physicians of the State, together with the nurses furnished by the C.W.A has made this campaign possible.

—GEO. N. BILBY.

RESOLUTION PASSED BY THE CARTER COUNTY MEDICAL SOCIETY

Whereas, our friend and fellow member Doctor David Autrey of Marietta, Oklahoma, has been suddenly called from us, we, the committee of the Carter County Medical Society, wish to present the following resolution to you and Society in special session, this 9th day of January, 1934.

First, to express our deep personal feeling of the loss of a valued friend, so well known and greatly appreciated by each and every member of this Society.

Second, that in the passing of Doctor David Autrey, the entire system of organized medicine, of which he was a leading factor has suffered an irreparable loss.

Third, be it resolved that the Society extend its sincere sympathy to his wife and members of his family and his legion of friends.

WALTER HARDY, Chairman
J. C. McNEESE
F. W. BOADWAY.

DOCTOR ANDREW PINKNEY BROWN

Dr. A. P. Brown, Davis, died in Oklahoma City, following an operation.

Dr. Brown was born at Cumby, Texas, July 21, 1869. Interment was in that city.

He is survived by his wife and one son.

DOCTOR GEORGE W. GOSS

Dr. George W. Goss, pioneer physician of Pawhuska, died January 10th following an illness of about six weeks.

Dr. Goss was born in Smithville, Mo., December, 1869, graduated from the University of Kansas and obtained his M.D., degree at the Kansas City Medical College.

He is survived by his wife and four daughters.

DOCTOR ROBERT J. BARRITT

Dr. R. J. Barritt, well known physician of Pawhuska, died in Research Hospital, Kansas City, January 10th, after a long illness.

Dr. Barritt came to the United States from Hamilton, in the Bermuda Islands, at the age of 17 years; graduated from Tufts Medical College, in Boston. After internship in Hartford, Conn., he came to Pawhuska, where he lived until a short time before his death.

Dr. Barritt had retired from practice about two years ago on account of ill health.

He is survived by his wife, father, three sisters and three brothers.

DOCTOR EMMETT JOHNSON

Dr. Emmett Johnson, Kinta, died January 1, 1934. Born September 11, 1866, in Oregon, Dr. Johnson moved to Mississippi in the early nineties. He graduated from the University of Tennessee School of Medicine in 1900, moving to Kinta in 1902, where he lived until his death.

He is survived by one daughter and two sons.

RECONSTRUCTIVE SURGERY AND OLD FACIAL BURNS

Howard L. Updegraff, Hollywood, Calif. (Journal A. M. A., Oct. 7, 1933), believes that reconstructive surgery of old facial burns should be avoided if possible until complete healing has taken place. The possibility of loss or impairment of various special sense organs may necessitate earlier surgery. Adherent eyelids, nasal contours and ears are best released by the use of Stent grafts. The release of major contractions in areas difficult to immobilize and dress correctly may be accomplished by the use of intradermal grafts, tunnel grafts and small tube flaps. The basal metabolic rate should be checked and, if low, thyroid medication should be forced. Autogenous bacteriophage therapy is helpful if positive Rosenau tissue cultures can be made. Early roentgen therapy is of benefit following surgery. Endotracheal anesthesia is the method of choice in the reconstruction of old facial burns.

ABSTRACTS • REVIEWS • COMMENTS AND CORRESPONDENCE

DERMATOLOGY, X-RAY AND RADIUM THERAPY

Edited by William E. Eastland, M.D.
Lain-Roland Clinic, M. A. Bldg, Okla. City

Divided Doses of Typhoid Vaccine in the Fever Therapy of Neurosyphilis, J. R. Driver, M.D., and Henry C. Shaw, M.D., Cleveland, Journal American Medical Association, Volume 101, No. 26, December 23, 1903.

This article deals with the fever therapy method of treating neurosyphilis by divided doses of typhoid vaccine in accordance with the method originated by Nelson. The authors have treated a series of 19 cases and draw conclusions therefrom, the results of which are given below.

Formerly the principle of treating syphilis was by the injection of a foreign protein with a single dose of typhoid vaccine. Nelson conceived the idea of double or broken doses given at short intervals. Driver and Shaw obtained results very similar to Nelson in that the giving of one dose of typhoid vaccine intravenously followed in two to four hours by another such dose caused a rise in temperature to almost any desired degree. The value of such a method is that it eliminates severe consitutional untoward effects resultant from malarial treatment. Also, it obviates the difficulty in obtaining the malarial infection by injection. The essayists repeat that it is a moot question in regard to the acting agent; that is, whether it is the elevated temperature or the action of the parasite in malaria that produces the effect upon the syphilitic individual. They are inclined to believe that it is the elevation of temperature and hence, the divided-doses method of typhoid vaccine is as efficacious as malaria. This method has been used particularly in neurosyphilis and Wassermann-fast syphilis, Often improved results can be obtained from chemotherapy following injection of typhoid vaccine. Further work along this line is essential to come to a final conclusion.

The Therapy of Actinomycosis, With Case Showing Lumbar Spine Involvement, Vincent W. Archer, B.S., M.D., and W. Allen Barker, M.D., University, Virginia, The American Journal of Roentgenology and Radium Therapy, Vol. XXX, No. 4, October, 1933.

The authors call attention to the fact that actinomycosis is much more common in human beings than the literature indicates. In a tabulation of reported cases it was found that the disease is especially prevalent in the upper Mississippi Valley region. It was found by Archer and Barker that the disease is distributed in the head and neck in 60% of the cases, in the abdomen 18%, and in the thoracic cavity 14%. Attention was called to the fact that the portals of entry in order of frequency are first, the oral cavity; second, the gastro-intestinal tract; third, the respiratory tract; fourth, skin abrasions. The chewing of straws, weeds or grain is the method of introduction into the oral cavity and frequently into the gastro-intestinal tract. Inhalation causes pulmonary involvement, as occurs around threshing machines. Bone involvement is considered to be by direct extension through the skin and by metastasis. Many cases are incorrectly diagnosed chronic appendicitis and are operated only to have a sinus occur at a later date. The thoracic form of the disease simulates catarrh or mucous bronchitis, bronchiectasis, bronchopneumonia, tuberculosis and lung abscess. Unfortunately X-ray is not pathognomonic. Skin lesions are characterized by local, dusky red swellings, deep fluctuating nodules and sinuses exuding a purulent discharge. Diagnosis should be proved by finding the ray fungus.

The therapy of this condition varies with the anatomical structures involved. In abdominal and thoracic cases surgery has been inadequate except for the purpose of establishing drainage. Massive doses of potassium iodide solution up to 250 minims three times a day are indicated. The outcome in all thoracic and abdominal cases cited ended fatally. It was found that deep X-ray thrapy over the site of the infection caused considerable amelioration of symptoms and prolonged life. In a few cases of bone involvement mentioned, X-ray and surgery cured some, and in other instances surgery alone; hence, the gist of this article indicates that the approved method of treatment is large doses of potassium iodide solution, X-rays and radium locally, and surgery to establish thorough drainage when indicated.

Erysipeloid Occurring Among Workers in a Bone Button Factory, George B. Lawson, M.D., Roanoke, Virginia, and M. S. Stinnett, M.D., Buchanan, Virginia, Southern Medical Journal, Vol. 26, Number 12, December, 1933.

The condition of erysipeloid reported in this article is relatively infrequent in Oklahoma, but since it occasionally does occur it is interesting to know more about it. This article concerns a report of erysipeloid occurring in a factory in Virginia that makes buttons out of bones. The employees vary from 150 to 210 workers and in a period of thirteen months' time 210 cases of this infection had been under observation, due to the fact that the workers traumatized their fingers in sawing and cutting buttons out of bone. Clinically, it was observed that the infection appeared three or four days after injury, and lasted from fourteen to twenty-one days. Often it starts on one finger and creeps proximally onto the hand or onto the adjacent finger, and creeps to the distal end. Recurrences up to as high as four times were observed. Although lymphangitis of the arm was observed with epitrochelear adenitis, the infection per se rarely ever extended beyond the wrist.

In those employees working in the fertilization department, in which bones were ground, chest conditions developed by inhalation of the bone dust. On coughing up particles of the bone dust the patients were usually relieved, but most of them were forced to resort to other work to prevent a recurrence of the symptoms. Five workers developed conjunctiv-

itis, lachrymation, photophobia and marked edema of the eyes due to bone dust settling there. This condition cleared up under a change of occupation and simple treatment.

The authors tried many local treatments but none seemed to change the course of the disease except ten per cent salicylic acid ointment and this helped a great deal.

Aas for the bacteriology, the state health department worked in cooperation with the authors and were able to isolate the bacillus of swine erysipelas.

This report therapy adds one more hazard to the multiple ones incident to trades.

Radiation in Primary Operable Breast Cancer, Douglas Quick, M.B. (Tor.), New York, Journal American Medical Association, Vol. 101, No. 27, December 30, 1933.

This article is of unusual value in that it reports a survey of the status of radiation in connection with breast cancer, as presented by an able man. In the preliminary part of the paper several pertinent factors are revealed, among which are the following: 95% of all patients coming to operation for breast cancer have axillary nodes involved (discussion of the paper by Portmann, from whom these figures were quoted, changed the involvement to 85%); that 70% of all patients coming to operation have intra-thoracic involvement; that a careful review of all patients coming to operation at least 70% are dead from extension of the disease at the end of five years, and the majority of the remaining 30% ultimately die of cancer. These facts are relevant to surgical treatment alone.

The author then considered the combined radiation therapy with surgery; in the first instance, postoperative radiation was dealt with, revealing Portmann's results which showed a 10% gain in five-year cures over surgery alone. Pfahler showed in over a thousand cases that the combined treatment gave a gain of 90%, as compared to surgery alone.

The second consideration was that of pre-operative radiation. The consensus of opinion by radiotherapists is that pre-operative irradiation is far superior to postoperative radiation. The radiation is done by deep X-ray therapy, utilizing 200 kilovolts and heavily screened. Lighter machines giving less kilovoltage are entirely inadequate. Quick observed that there is an unusual absence of skeletal metastases with pre-operative radiation.

The third consideration on radiation was of the accessory type in which irradiation to the ovaries was given, but the conclusions were that the evidence failed to support such a theory.

The fourth consideration is irradiation at the time of operation in which gold radon seeds are planted at certain points. These are of value in a restricted number of cases.

Considerable work has been done using radiation as a sole means of treatment of breast cancer. Very favorable results have been obtained by such a method, but it is yet too soon to depend upon this method alone. Biopsy can be safely done in breast cases following preliminary irradiation.

EYE, EAR, NOSE and THROAT

Edited by Marvin D. Henley, M.D.
911 Medical Arts Bldg., Tulsa

Rodent or Mooren's Ulcer of the Cornea. Sanford R. Gifford, M.D., Chicago. Archives of Ophthalmology, December, 1933.

The author gives a historical account of rodent ulcer of the cornea as described by Mooren in 1867, and reports three cases with healing with a visual acuity at the last testing of 20-50, 20-30, and 20-40 respectively. The literature shows that rarely a vision of 20-200 results from this disease. A search reveals seventy case reports published, only two of which are by Americans. Schieck says: In view of our ignorance of the nature of the disease and the tendency to relentless progress, it is a severe task to treat a patient with rodent ulcer. Usually one is in a hopeless battle. Gifford states that this condition is not so rare but that most ophthalmologists should see one or more cases during the course of a lifetime. Perforation never occurs spontaneously but enucleation is sometimes resorted to for the relief of pain. The three theories of the etiology of the disease are: (1.) An infectious agent; (2.) a general state of malnutrition, and (3.) a trophic disturbance due to primary pathologic changes in the fifth nerve. Some of the various forms of treatment used by different prominent ophthalmologists are: (1.) Building up of the great resistance by injections of foreign proteins; (2.) the use of cod liver oil; (3.) Bucky's border rays; (4.) roentgen therapy; (5.) phototherapy; (6.) cauterization; (7.) attempts to produce hypotony; (8.) puncture of the cornea with actual cautery; (9.) fistulization of the cornea and (10.) the use of the conjunctival flap. The failure in the last mentioned method is usually due to the fact that the flap covers only the affected area when it should cover the entire cornea. After the healing is complete (two to three months) a small opening is made in the conjunctiva which then retracts around the unaffected cornea. The diagnosis was made in case one after five weeks of active treatment. A keratotomy four mm. long and just in advance of the central border was done. The wound was reopened seven times during a period of eleven days. In case number two, a diagnosis was made on the sixth day of observation and treatment. On the thirteenth day a delimiting keratotomy just central to the advancing border was performed. This was kept open twice daily for ten days. Case number three had had pain and impaired vision for four weeks. Trichloracetic acid was used and a conjunctival flap was drawn beyond the advancing border. In closing the author points out the fact that the cosmetic effect of the delimiting keratotomy is much better than that obtained with a conjunctival flap. It is a safe and simple procedure. He says that apparently the effect is due to increased nutrition and supply of antibodies resulting from a reduction of tension and perhaps also to the epithelial barrier formed at the site of the incision. Such an effect may be conceived to be of value whether the disease is infectious or degenerative.

The Leaking Brain Abscess. Dan McKenzie, London. The Journal of Laryngology and Otology, December, 1933.

A leaking brain abscess is the type which ruptures spontaneously and gradually discharges, internally or externally, and not those which burst into ventricles

or meningeal spaces flooding the cerebrospinal system with a virulent pus and causing death within a few hours. Internal leaking brain abscesses are uncommon in the literature. Cerebellar abscess leakage is rare probably because of its location relative to the mastoid region and the cranial bony wall. The surprising fact about the internal drainage into the meningeal spaces is that the patient sometimes recovers. Three such cases are reported, one with a fatal termination. Mental hebetude and other signs and symptoms of meningitis were characteristic. The case that did not survive entered the Central London Throat and Ear hospital with meningeal symptoms. Spinal fluid was turbid and contained coliform bacillus. Operation disclosed a cerebellar abscess which was drained and a tube left in situ. Over a period of three months this tube was expressed no less than five times and after each time the evidence pointing to a meningitis recurred and persisted until the drainage was again established. The patient finally died and at post mortem the clinical conundrum was solved by the finding of another separate and distinct cerebellar abscess which had never been reached. The three cases reported of internal leakage are cerebellar. The temporo-sphenoidal abscess is usually much larger than the cerebellar and so when the massive collection of purulent material is suddenly discharged, the quantity is too great for the local defenses, and the patient usually dies. However, there is a case recorded of recovery where the meningeal spaces were irrigated. The author has thirteen collected cases of external leakage. The common point of spontaneous drainage is along the route of infection as it enters the brain or what the author terms the abscess-stalk. This is not always true for there is a case recorded which showed at necropsy to be draining into the left sphenoidal sinus from a large temporo-sphenoidal abscess reaching into the pituitary fossa. The etiology was determined to be nasal sinus suppuration and the abscess had ruptured into the lateral ventricle. The external leakage is rarely enough to prevent the increase in size of the abscess, spread of the infection and increase in intracranial pressure. R. Ritchie Rodger had a case with external drainage under observation for four years. If the infecting organism is of a virulent type even free surgical drainage sometimes proves unsuccessful. Much then depends on the virulence of the organism. Nevertheless leakage does alleviate the symptoms and slows the course of the infection so that when operated the chances of regaining normalcy are better. Without operation the progress is slowly downward and the end, though delayed, is seldom in doubt. There may be an extradural as well as a brain abscess and if only one is present the differential diagnosis may not be made until operation. Pain and headache are almost instantly eliminated when a brain abscess ruptures externally, but watchfulness must be continued as the infection may spread without pain and death ensue. The general condition of the patient is of great importance.

Adenoids and Immunity. Henry B. Lemere, M.D., Hollywood, Calif. Archives of Otolaryngology, September, 1933.

A review of a previous paper defined the adenoid as a protective structure guarding against nasal infections and stated that in over three hundred tests given school children in whom the adenoid was left after a tonsillectomy, it was found that after daily forceful blowing exercises, nasal breathing improved and a decrease was seen in colds and their accompanying disorders. To prevent the more serious infections following head colds, especially in children, proper feeding and clothing are necessary as well as preservation of the adenoid. Removal of adenoids is recommended if mechanical cleansing has failed to obtain satisfactory results and if it is a certainty that the adenoid is the source of trouble and not some other obstruction in the nasopharynx. A series of patients in the Marion Davies Foundation were observed and as a result of nasal hygiene improvement occurred in mouth breathing, very few patients had acute suppurative otitis media, infected tubal openings cleared up, recovery from colds was more rapid and all were free from an acute empyema. A broad nasal bridge sometimes results from chronic catarrhal conditions. Among the laity and also some medical men this broadening is thought to be due to adenoid tissue but the author claims that it is produced by obstruction in the middle fossa and ethmoidal region. Using the therapeutic measures mentioned this condition shows marked improvement over a period of months or a year or two. The parents and children are given detailed instructions as to routine home treatment including medication, cleansing, blowing, deep inspiration, forceful expiration, etc. A part of a monograph by T. B. Layton, of London, England, was included in this paper and was similar to Lemere's statement regarding nasal hygiene and the preservation of the adenoid.

A Report of Seven Cases of Partial Thoracic Stomach With Short Oesophagus. Monkhouse and Montgomery, London. The Journal of Laryngology and Otology, November, 1933.

The prime object of this article is to emphasize the importance of a careful and thorough study of partial thoracic stomach with short oesophagus. It is not an easy matter to write a monograph on any subject and the difficulty is increased when due to the rarity of the condition discussed the clinical material is limited. This is a condition in which the oesophagus is congenitally short and in which the deficiency is made up by some portion of the stomach passing through the oesophageal hiatus. Ususally this condition was found on post mortem examination as up until 1930 diagnosis depended on radiological evidence alone. Endoscopic and fluoroscopic examinations and a specialized technique of barium ingestion and the taking of roentgenograms now assist in the diagnosis. Seven cases are diagnosed and reported. Diagnosis is made with the fluoroscope, roentgenograms and the oesophagoscope. The special technique for the roentgenograms is: The patient lies with his head lower than his hips and then turns left half or into the right anterior oblique position. Fluid emulsion of barium is first taken through a tube and its progress observed by means of a fluoroscope and then a thicker solution is swallowed. Pictures are taken at the end of inspiration. By laying the patient flat on his back after barium had been ingested and taking a picture, this condition (partial thoracic stomach) could not be detected because the dilatation above the draphragm would not fill with barium in this position. The barium must be swallowed when the head is lower than the hips in order to show (a.) the oesophagus opening into a dilated sac above the diaphragm; (b.) no thin stream of barium representing an abdominal oesophagus passing below the diaphragm, and (c.) that the oesophagus is not contorted or curled back on itself. If there is an impediment, carcinoma, cardio-spasm and other strictures must be eliminated. Para-oesophageal hernia, diverticulum of the lower end of the oesophagus, other rare conditions and the physiologically normal must be differentiated. Primarily the difficulty in swallowing

was attributed to the ulcerated stricture but after this was corrected by repeated dilatations there persisted this symptom and on examination there was found to be present a muscle spasm below the site of the original stricture which could be overcome by steady pressure with a bougie during inspiration. Carcinoma located here produces difficulty in swallowing which is steadily progressive but in the cases reported it was intermittent in character and many times not of an increasing severity. Blood can and does occur in both conditions. Pain is a constant symptom and resembles the flatulent dyspepsia of cholecystitis. Biopsy at the level of the ulcerated stricture shows gastric mucous membrane. The distance of the lesion from the incisor teeth, as measured by the oesophagoscope and the X-ray locate the pathology well above the diaphragm. The oesophagus shows an ulceration which has the appearance of a malignancy. The article is freely illustrated with microscopic sections, X-ray pictures and drawings and has a fairly extensive bibliography of the recent work on the subject.

ORTHOPAEDIC SURGERY

Edited by Earl D. McBride, M.D
717 North Robinson Street, Oklahoma City.

Slipping of the Epiphysis of the Head of the Femur; Its Relation to Renal Rickets. J. F. Brailsford. Lancet, I, January 16, 1933.

The writer describes the X-ray appearance of the upper end of the femur in the pre-slipping stage of slipped upper femoral epiphysis. There is some increase in the density of the metaphyseal periphery of the epiphysis, some increase in the metaphysis, in part or throughout its whole breadth, with some wooliness of the outline of extremity of the disphysis. These features should be sought for in children suffering from discomfort or pain in the hip joint. The recognition of these features should lead to measures designed to prevent slipping.

The writer is of the opinion that disease, weight bearing and strain, and trauma all play a part in the production of this condition. There is some disorganization of the metaphysis which lessens its capacity to withstand the normal sheering stresses and strains, and the condition may be brought into prominence sooner by some trauma which would not have affected the normal femur. Further he believes that renal rickets may produce such a disorganization of the metaphysis. Several cases of slipped epiphysis are presented which showed albumin in the urine (no chemical findings of the blood are presented). The X-ray appearance of bones showing renal rickets is characteristic and also the changes may be seen in only one joint. This characteristic appearance is a thickening of the metaphyseal area. Consolidation and repair of the metaphyseal tissue in renal rickets may be seen by roentgenographic examination, to take place in as short a time as one month. Renal rickets should be excluded before any operative procedures are undertaken on these cases. The urine should be examined for albumin on several occasions in these cases.

Signs and Symptoms of the Acute State of Anterior Poliomyelitis in the 1931-1932 Epidemic. S. F. McDonald. Med. J. Australia, January 1, 1933.

In the "dormedary" type, the initial stage, lasting two to six days, strongly resembles dengue fever, but without neck or spine rigidity. Unless an abortive case, after a few hours to several days, temperature again rises, there develops spinal rigidity, and paralysis may or may not occur. In the first stage the spinal rigidity, and paralysis may or may not occur. In the first stage the spinal fluid cells are usually absent; at the beginning of the second stage there are a few polynuclears, and, with the localization of the disease, the lymphocytes and mononuclears increase.

Roughly, the cell count was proportional to the severity of the infection. Lumbar puncture was considered justifiable in any child with fever, headache, prostration, stiff neck and back. It was always done under general anesthesia; but was not done where the child was desperately ill or after paralysis had set in.

Muscle tenderness came only after the onset of paralysis. The greatest susceptibility was in the age group from two to six years; but the older children tend to be more seriously crippled, bearing out the view that paralysis is more severe in the more hard worked muscles.

The fatal cases occurred in those of the overwhelming toxaemic type, and in the ascending Landry type. The cell count was high in the Landry type, low in the toxemic, encephalitic type.

A Few Notes On the Serum Treatment of Acute Anterior Poliomyelitis. Alec E. Paterson. Med. J. Australia, January 5, 1933.

The advised dose was fifty cubic centimeters, twenty cubic centimeters to be given intrathecally and thirty cubic centimeters intravenously. The serum was given to seventy-four patients and the results were "beyond all expectations." The author feels that had more serum been available, larger doses would have been given and even better results obtained. As to method of administration, the patient was anesthetized and the serum given: (a.) at body temperature, very slowly, through the spinal puncture needle in situ, an additional five cubic centimeters of spinal fluid having first been withdrawn; (b.) intravenously by cutting down and exposing a vein in the forearm.

The serum produced a profound general reaction, as a rule, which was considered beneficial. The reaction began in about four hours and lasted about twelve. It produced, first, great misery, then a sudden change to comfort. The spinal rigidity required about six days for disappearance. The author believes that spinal puncture and spinal therapy had no causative effect on spinal rigidity.

Contrary to the belief that, once paralysis has set in, serum is useless, the author thinks that no matter to what extent paralysis is present, so long as the patient is febrile, serum is beneficial.

I wish to list the following articles, reprints of which have recently come to my desk:

"Osteotomy for Flexion Deformity at the Hip Due To Anterior Poliomyelitis," and, "Block Osteotomy of the Femur," by Edwin W. Ryerson, M.D., Chicago, Ill.

"Backache," and "The Backgrounds and Foregrounds of Orthopaedics," by Joel E. Goldthwait, M.D., Boston, Mass.

"The Prevention of Accidents and Complication In the Course of Treatment in Chronic Osteomyelitis." H. Winnett Orr, M.D., Lincoln, Nebr.

"The Conservative Treatment of Backache," by Lloyd T. Brown, M.D., Boston, Mass.

"Primary Haemangioma of the Spine," by Leonard Barnard and R. G. Van Nuys, Oakland, Calif.

SURGERY AND GYNECOLOGY

Abstracts, Reviews and Comments from LeRoy Long Clinic
714 Medical Arts Bldg., Oklahoma City

The Effect of Pregnancy on the Urinary Tract. Harry P. Lee, M.D., and William F. Mengert, M.D., Iowa City. Journal A.M.A., January 13, 1934, Volume 102, No. 2.

This is an interesting article which in some respects differs from the ordinary view taken by the profession as regards the effects of the pressure of the uterus on the lower ureters.

These gentlemen reach the following conclusions:

1. Dilatation of the upper urinary tract to some degree occurs in every pregnancy and is a normal concomitant of pregnancy.

2. This dilatation subsides rapidly after the termination of pregnancy, provided the pregnancy, delivery and puerperium are normal, and in many cases a marked decrease in the size of the ureters and pelves can be demonstrated within twenty-four hours following delivery.

3. Abnormal delivery or an abnormal puerperium interferes with the return of the upper urinary tract to normal.

4. In ten normal pregnant women, retrograde pyeloureterograms failed to show any evidence of obstruction anywhere along the course of the lower ureter.

5. In fifteen normal pregnant women, draining the ureters with urteral catheters for twenty-four hours, in order to overcome any obstruction that might possibly be present in the lower portion of the ureters, produced no change in the degree or character of the dilatation of the upper urinary tract.

6. With the exception of ovarian cysts and ovarian abscesses, pathologic conditions in the female pelvis do not cause dilatation of the upper urinary tract.

7. Evidence is presented which disproves the theory of lower uretheral obstruction as the cause for dilatation of the upper urinary tract in pregnancy.

—LeRoy D. Long.

Treatment of Disease of the Upper Part of the Digestive Tract, Preoperative and Postoperative. James F. Weir, M.D., and Waltman Walters, M.D., Rochester, Minn. Journal A.M.A., January 13, 1934, Volume 102, No. 2.

This is a valuable article. The conclusions arrived at are:

1. Preoperative and postoperative treatment is definitely indicated in the complicated diseases of the upper part of the digestive tract and has markedly lowered the operative mortality and the postoperative morbidity.

2. In the gastroduodenal cases such treatment is important, especially in cases of anemia and obstruction.

3. Obstruction is the most common complication in such cases and requires attention to the stomach locally and to the systemic effects of starvation, dehydration and toxemia. Intravenous saline and dextrose solutions consitute the chief therapeutic weapons.

4. Immediately after operation continued careful observation is necessary in cases of obstruction, with resumption of intravenous medication if any untoward symptoms occur.

5. In an occasional case in which gastro-enterostomy otherwise is successful, symptoms of retention develop about seven to fourteen days after operation, and usually the response to adequate treatment is satisfactory.

6. Subsequent care of the patient with ulcer should be judicious and not engender psychoneurotic tendencies.

7. In cases of jaundice, accurate and complete diagnosis, evaluation of the presence or possibility of hepatic or renal insufficiency or the tendency to hemorrhage, institution of measures for their control, and selection of the most opportune time for operation are the chief preoperative indications.

8. A high intake of carbohydrates and fluids and administration of calcium salts, solutions of dextrose and transfusions constitute important therapeutic procedures.

9. Postoperative continuation of these procedures improves the patient's condition, aids in warding off hepatic or renal insufficiency and shortens convalescence.

10. Frequent chemical examination of the blood before and after operation gives important information as to the course of the disease.

Important features in the pre-operative preparation of patients with obstructive lesions of the stomach or duodenum are; first, control of the dehydration toxemia, and second, emptying of the stomach and keeping it free from retained material. If this is done the surgeon will have a clean stomach of normal size with which to work.

Dr. Levin of New Orleans (designer of the Levin tube) in discussing this paper emphasizes the necessity of continuous gastric lavage for upper abdominal distention following operation.

—LeRoy D. Long.

Relief of Acute Adhesive Intestinal Obstruction; By Suction Applied to Inlying Duodenal Tube. Dr. Owen H. Wangensteen. Surgery, Gynecology and Obstetrics, January, 1934, Volume LVIII, No. 1.

This is an editorial on this most important subject by a man who is thoroughly familiar with the difficulties present. For a number of years I have followed his plan of continuous nasal catheter suction siphonage with increasing enthusiasm. As the points out in this editorial, there are occasional cases of adhesive, intestinal obstruction which will be relieved by the use of the nasal cathether alone. Of course, there are a number of these cases which will require either an enterostomy or a more extensive operation at a later date, but the nasal catheter offers a possible means of medical treatment for intestinal obstruction, a fact which has not been recognized until recently.

The rationale of its use rests upon this feature: "Intestinal distention engendered by a block in the bowel is due essentially to failure of absorption of swallowed air and the digestive juices, (bile, pancreatic juice, and hydrochloric acid) emptied in at the gateway of the intestinal canal. In the same manner that decompression by enterostomy of the gut obstructed by an adhesive band permits intestinal continuity to become automatically re-established, so similarly aspiration of the contents of the upper reaches of the distended intestinal tube together with

removal of increments of swallowed air and digestive juices as they accumulate, often allows spontaneous restoration of the intestinal lumen.

Of course, it is to be stressed that in the strangulation types of obstruction, whether due to hernia, volvulus, intussusception or adhesive bands, operative interference is urgent. Likewise, in the enormous distention of the colon occasionally observed in acute obstructions at the sigmoid flexure, the need for immediate decompression by operation of the balloned gut is pressing. It is remarkable how accurately one can make a diagnosis of the type of obstruction present by correlating physical findings with X-ray films of the abdomen.

Dr. Wangensteen makes a point of following the progress of the decompression in the intestine by the use of X-ray films at the bed-side. The appearance of gas in the colon in complete obstructions of the small intestine indicates that the continuity of the intestinal canal has been restored. Pain is not of importance in attempting to estimate the success of decompression. Dimunition in caliber of the distended intestinal coils is of more importance than relief of pain as indicating a successful decompression.

During the time that one is using the nasal catheter suction, fluids are given in sufficient quantity to insure a urine output of 800 to 1000 c.c. daily.

According to Dr. Wangensteen, "a large number of instances of acute adhesive obstruction, whether of remote or recent origin, will be spared the necessity of operation for its relief through the use of suction applied to an inlying duodenal tube.

—LeRoy D. Long.

The Present Treatment of Tetanus (Les Traitements Actuels du Tetanos). By E. L. Peyre. La Presse Medicale, December 9, 1933.

That tetanus is a curable disease in a large majority of cases, and that the treatment is not well systematized because the disease is infrequent, and there are reports only in connection with isolated cases, is the burden of the argument of the author.

Six personal cases are reported by the author, with recovery in five, making 83 per cent of cases cured by the plan suggested.

It is assumed that proper local treatment is employed in the average case. That is not considered in this article, emphasis being placed upon the measures used in connection with the general toxemia. This is considered under three headings: Serotherapy, sedatives and adjuvants, and phylactic agents.

Extremely large doses of antitetanic serum, given by all routes—subcutaneously, intramuscularly, intravenously, and, especially intra-spinally—is advised.

Particular attention is called to the value of sedatives, such as chloral hydrate, either by mouth or per rectum, the author stating that a tetanus patient who sleeps is half cured, ("un tetanique qui dort est un tetanique a moitie gueri"). Reference is made, also, to the use of the barbiturates in the United States, and to the common use of avertine per rectum in Germany.

The plan of DuFour in anesthetizing the patient by the use of chloroform or ether is considered as being of extreme value, not only for the purpose of producing temporary relaxation, but because it is believed that the combination of the anesthetic agent with the cellular elements of the central nervous system makes it possible for antitetanic serum to fix the toxins in the cells. In proof of this it is related that guinea pigs injected with the toxin of tetanus after anesthesia do not develop the disease. After the guinea pig is injected with toxin, and then anesthetized, the disease develops rapidly. But if the pig is injected with toxin, followed by anesthesia, and that by antitoxin the disease is not developed. From this point of view, chloroform and ether are considered phylactic agents.

In connection with the agents already mentioned, phenol in either the aqueous solution advised by Baccelli or in oil as advised by Montille is employed.

The procedure of Couvy in the use of urotropin is also employed, it being believed, following the reports of Le Fevre de Arric and Millet, and of Mutermilch that the meningeal barrier to the entrance of antitoxic agents is thus removed.

Incidentally, attention is called to the necessity of supplying nourishment and water by the intravenous injection of solutions of glucose.

In summing, one would gather from the article that it is the author's belief that, notwithstanding tetanus is due to the toxin produced by a specific organism, antitoxin alone will not cure the average patient, there being so many concommitant situations that require the various procedures enumerated, and employed in a very heroic manner.

—LeRoy Long.

Grave Accidents in Proctoscopy (Les Accidents Graves de La Rectoscopie). By G. Menegoux. La Presse Medicale, December 6, 1933.

The case of a man 43 years of age is reported. He entered hospital because of pain in the left iliac fossa. He had had diarrhea and constipation alternately and had lost much weight. He was having a little fever.

In connection with a routine examination, a proctoscopic examination was made. A few hours later the patient complained of pain and vomiting and had more fever. Seen by the author twenty hours after the proctoscopy, there was generalized pain over the entire abdomen, with rigidity. The temperature was elevated. There was a diagnosis of generalized peritonitis, cause unknown, but possibly due to perforation of the rectum, although there was no history that there had been bleeding during or after the examination.

An immediate operation was performed when it was found that the abdominal cavity was filled with pus and false membranes. At the junction of the rectum and sigmoid there was a large mass without visible perforation. It seemed impossible to do a resection. Drainage was placed and the abdomen closed. The patient died the next morning.

At autopsy it was demonstrated that there had been a rupture of a perisigmoid abscess.

Reference is made to a case reported by Feist in a German medical journal, 1926. A man of 66 complained of pain in the rectum. A digital examination was negative. A proctoscopic examination was performed with the patient in genu-pectoral position. The proctoscope, with the obturator, was introduced 12 cm. Then the obturator was removed, and the tube was passed some 8 cm. farther under control of the vision. At that moment it was discovered that a loop of the small bowel was in the rectum. There was an immediate laporatomy at which it was found that there was a rupture of the posterior rectum at

its junction with the sigmoid at the site of a pedunculated diverticulum. The walls of the diverticulum were as thin as paper. The perforation was closed by two layers of sutures. A provisional colostomy was performed. The patient recovered.

Another case is reported by Clairmont in which there was a perforation of the anterior rectum in the course of a proctoscopic examination during which insufflation by air was employed for the purpose of facilitating the progress of the proctoscope.

Particular attention is called to the danger attendant upon the employment of the proctoscope in connection with suspected inflammatory processes about the rectum or the lower sigmoid.

The author suspects that but few of the unfortunate cases of rupture due to proctoscope examination have been reported, but he has collected cases reported by Mummery, (not a personal case, but related by him), by Anschutz, by Sultan, by Schreiber, by Strauss, by Schmitt, by Gant, and two by Clairmont. Most of the patients died. Those who recovered had the advantage of exploratory operation immediately after the accident.

All the reported cases show that the perforations have been in the upper rectum which is covered by peritoneum, and the usual site is almost constant, it being at the junction of the rectum and sigmoid.

The author does not believe that proctoscopic examination ought to be undertaken in the case of a patient where it has been demonstrated that there are diverticula of the sigmoid, because in a number of the reported cases the accident was associated with the existence of diverticula in close relation with the recto-sigmoid junction. He believes that proctoscopic examination should never be done under general anesthesia.

—LeRoy Long.

Migrating Projectiles—Conditions Governing Their Penetration Into Vessels (Projectiles Migrateurs—Conditions de Penetration des Balles dans les Vaisseaux) by R. Piedelievre, Professeur agrege a la Faculte de Medicine, Paris; and Pierre Etienne-Martin, Interne des Hopitaux de Lyon, La Presse Medicale, November 1, 1933.

This contribution is of interest to both the surgeon and the student of legal medicine.

A case is reported where a young man was shot in the front of the chest by a revolver. Death was immediate. Autopsy showed that the wound of entrance was through right side of sternum opposite the third intercostal space. The missile cut across upper pericardium and penetrated the antero-lateral side of the arch of aorta (la crosse de l'aorte), but there was no wound of exit from aorta. The aorta was traced through thorax and abdomen, then the iliac vessels. The missile, a ball of lead 8 m.m. caliber, slightly deformed, was found in the common femoral on left side, just (two finger breaths) below Pouparts ligament, it having been arrested at the point of origin of the deep femoral.

The authors carried out some experimental work in an effort to determine the mechanics:

1. Shots from a revolver were fired into a hanging rubber tube through which water was rapidly flowing, from various distances. The result was that, when the tube was penetrated at all, there were perforations on both the anterior and posterior wall.

2. On the assumption that the relation of the wounded vessel to adjacent unyielding tissue—for example in this particular case, the relation of aorta to more or less yielding tissue in front and with the unyielding spine behind—a heavy board was placed behind the tube containing the running water and close to it. It was found that some of the balls fired from distance under 10 meters penetrated the anterior wall, but only tore the posterior wall a little or left an imprint upon it but with a dent in the board. Where the front of the tube was covered by layers of paper, rubber, and thin board, the same result was obtained—that is, at certain distances there was no frank penetration of posterior wall, provided the unyielding board was behind the tube. In the absence of this posterior board both walls were penetrated.

The authors conclude that in case of the tube through which a stream of water is rapidly flowing, the phenomenon of non penetration of the posterior wall is due to the resistance offered by the posterior board with monetary pinching of the posterior wall of tube in an indentation made in the board. They believe that the same explanation holds when there is only a wound of entrance in a large vessel that is supported on opposite side by an unyielding structure (bone) which, by its resistance, limits the damage to arterial wall at that point.

—LeRoy Long.

CARE OF ADVANCED CARCINOMA OF THE GASTRO-INTESTINAL TRACT

Frank C. Yeomans, New York (Journal A. M. A., Oct. 7, 1933), points out that, because of the fact that the great majority of patients with a malignant condition of the gastro-intestinal tract still reach the surgeon in a stage of the disease so advanced, radical excision —the most hopeful type of therapy—is impossible, From the very nature of conditions it would seem that this state will persist and that palliation will consequently continue to be the only form of treatment for patients with carcinoma of the gastro-intestinal tract, for the following reasons: (1.) In many instances the malignant process is insidious in onset and almost symptomless until far advanced, or the patient all too frequently neglects early warnings. (2.) Failure to make a thorough examination when medical advice is first sought is quite common. There are difficulties in detecting, and it is frequently impossible to detect, early malignant conditions in certain situations by available methods of diagnosis. The author states that the sympathetic attitude is important, as the victim of inoperable cancer may become a prey to the irregular practitioner or cultist. The desideratum is life in comfort while it lasts. Nourishing food of high caloric value, good hygiene and competent nursing, together with rest and sufficient sleep, obtained if necessary by sedatives, analgesics or opiates is essential. Tonics of iron and arsenic are indicated and in some cases whisky in 30 c.c. doses, transfusions of blood, cod liver oil with viosterol and once or twice weekly an ampule of calcium gluconate by vein, which, according to some clinicians, in large continued dosage is a potent analgesic. The incidence of gastro-intestinal malignant conditions in 10,070 patients admitted to the New York City Cancer Institute during a period of nine years included esophagus, 192; stomach, 622; colon, 77; sigmoid, 70; rectum, 406, and anus, 17, or 13.7 per cent of the total admissions.

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ORGANIZATION OF ANESTHESIA SERVICE OF GENERAL HOSPITAL

Albert H. Miller, Providence, R. I. (Journal A. M. A., Oct. 7, 1933), discusses the need for an anesthesia service, the instruction of interns, the personnel of the staff of anethetists, the examination of patients, the keeping of records of anesthesia, inhalation therapy and economic conditions, suggests subjects for lectures and concludes that the functions of an anesthesia service in a general hospital are to provide satisfactory anesthesia for the patients and to train the younger practitioners in the art of anesthesia. This training is requisite for recruiting the number of graduate anesthetists and for familiarizing the future surgical specialists with a subject that they will constantly encounter in their daily work. A department of anesthesia cannot be conducted without expense, a factor which must be met by the patient, the surgeon or the hospital.

HEREDITARY GAUCHER'S DISEASE

J. P. Anderson, Cleveland (Journal A. M. A., Sept. 23, 1933), investigated the history of a Russian family in which there is a possibility of hereditary transmission of Gaucher's disease. He reports the clinical history of this family in the hope of stimulating a thorough study to the third generation of families in which instances of Gaucher's disease have occurred. The history of the family observed shows that Gaucher's disease has affected almost all the women and none of the men. Two of the girls are dead. In one case the diagnosis of Gaucher's disease was established with tuberculosis as an intercurrent and terminal infection. Of the two living members exhibiting the disease, one has been proved by splenic puncture to have many Gaucher cells. Liver extract administered for eight weeks to one patient with Gaucher's disease had no apparent effect in combating a steady progression of the disease, including increasing anemia. The presence of a similar condition in the maternal grandmother and two of her sisters has been reported but cannot be proved. The possibility of hereditary transmission through a male donor who himself never showed any evidence of the disease suggests that the family histories of patients with Gaucher's disease should be followed through the second and third generations.

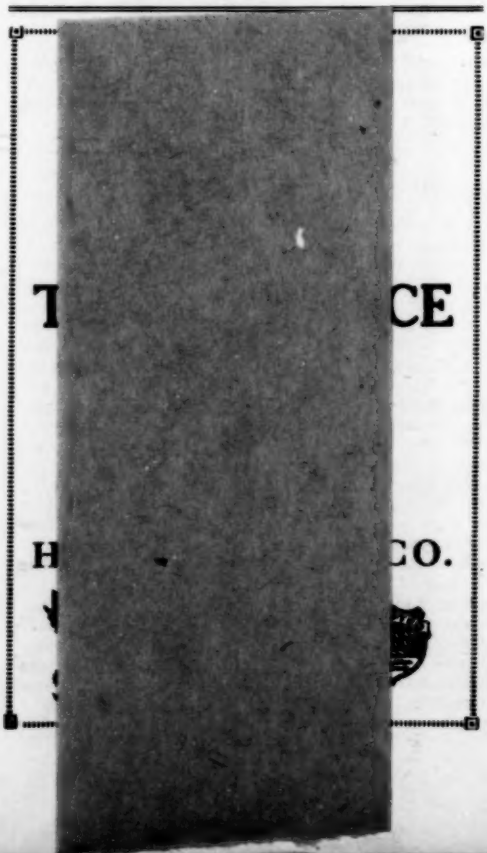
OTORHINOLOGIC ASPECTS OF SCARLET FEVER, WITH PARTICULAR REFERENCE TO THE SINUSES

Gordon D. Hoople and Linus S. Cave, Syracuse, N. Y. (Journal A. M. A., Oct. 7, 1933), studied two series of cases of scarlet fever. The first series, of 292 cases of scarlet fever in which roentgenograms were taken, showed a suprisingly large number of patients who had roentgenologic evidence of sinusitis. It was found that there was no incidence of otitis media without the presence of sinusitis. This finding was further qualified by the observation that in every case of otitis media there was some involvement of the sinuses on the side of the lesion of the ear. In this first group the patients had been selected primarily for the roentgen study, and the study was continued for a period of more than a year to observe any seasonal variation that might be present. None having been found, save for the seasonal incidence of scarlet fever itself, the second study was begun immediately, and a group of eighty patients was observed. Twelve of the eighty patients showed a clear roentgenogram at or near the onset of their illness, five of whom showed involvement of the sinuses at a subsequent time, leaving but seven who showed clear sinuses throughout their illness. Thus 91 per cent of the patients gave roentgen evidence of sinusitis, which corresponds closely with the percentage in the first group. The clinical examination failed to support this evidence in every case. There were thirty-three cases of otitis media among 292 patients in the first group, and twelve in the second series of eighty patients. In all of these there was roentgen evidence of sinusitis, and in all but one there was involvement on the side of the infected ear. The authors, without desiring to draw unwarranted conclusions in the absence of control studies, raise the question as to whether or not sinus involvement is the rule rather than a complication.

DISEASE OF THE UPPER RESPIRATORY TRACT: PROBLEMS CONNECTED WITH THE ETIOLOGY AND PROPHYLAXIS

A. R. Dochez, Katharine C. Mills and Yale Kneeland, Jr., New York (Journal A. M. A., Nov. 4, 1933), state that there is some relationship between the common cold and weather conditions; that weather was long thought to be of primary importance is indicated by the name of the disease itself. There is no question now that the malady is primarily an infectious one and that the effect of weather is secondary. By use of the plate method of bacteriologic study, it has been possible to isolate a large number of different micro-organisms from the upper respiratory tract, and as one or another of these has happened to be prominent in a given outbreak of colds, etiologic significance was naturally attributed to them. In 1892, Pfeiffer announced the isolation of the bacillus now known as Haemophilus influenzae. During the pandemic of 1889 and for many years thereafter this organism was generally regarded as the cause of influenza. In 1918, however, when the world was revisited by influenza, a vigororus controversy sprang up as to the exact part this organism played. A systematic revaluation of the relationship of Pfeiffer's bacillus to influenza has not been possible since that time. On the other hand, valuable data have been accumulated dealing with the bacteriology of colds. In the past ten years several careful studies by Pfeiffer of groups of persons, not only when suffering from colds, but at regular intervals throughout the entire year, have shown that there is a "basal flora"

of the upper respiratory tract composed not only of the organisms generally thought to be nonpathogenic but also, for longer or shorter periods, of organisms that are known to be highly pathogenic, such as hemolytic streptococcus, pneumococcus, and H. influenzae. The presence of such organisms is by no means necessarily associated with symptoms of infection of the upper respiratory tract; they may not increase in number or incidence with the onset of an acute cold, and the only certain relationship that can be established between them and respiratory infection is their activity in the secondary inflammatory process of the upper respiratory tract. Similar surveys (made by Mills, Shibley and Dochez) dealing with the presence of the gram-negative filter-passing anaerobes in persons throughout the year have shown that no causative part can be ascribed them in connection with the common cold. Consideration of these results has now led most investigators to believe that the cause of the common cold lies elsewhere than in the visible bacteria that can be cultivated from the upper respiratory tract. Kneeland and Dawes have shown that the upper respiratory tract of the infant is sterile at birth, but during the first months of life a basal flora is acquired entirely comparable to that of adults, and the first appearance of pathogenic organisms does not necessarily usher in disease. Observations on chimpanzees following inoculation of bacteria-free filtrates from colds showed that there was a springing into prominence of pathogenic bacteria previously inconspicious in the noses and throats of the animals. Many repetitions of these transmission experiments, and many negative controls with material derived from normal persons, are convincing evidence that there is present in the upper respiratory tract in cases of acute colds a filtrable virus that can give rise to a typical cold when inoculated into human volunteers or anthropoid apes. In regard to influenza, it seems logical to inquire whether or not a filtrable virus may be the cause. A filtrable agent has recently been cultivated in tissue medium from human cases of influenza in two separate outbreaks of the interpandemic form of the disease by Long, Bliss and Carpenter. The importance of the relationship of H. influenzae to human influenza has not yet been satisfactorily determined. For many years, efforts have been made to mitigate the severity and cut down the number of these infections by employing vaccine composed of the visible pathogenic organisms of the respiratory tract. In view of the fact that many of these organisms are now believed to be secondary in their activity, the disappointment that has come from the use of such vaccine was to be expected. The authors believed that the incidence and course of the secondary bacterial complications of the common cold could be favorably influenced by employing a vaccine comprised of the organisms concerned. They selected a simple antigenic mixture consisting of heat-killed cultures of pneumococcic, H. influenzae and Streptococcus haemolyticus for purposes of vaccination. This vaccine was given at weekly intervals (nine injections in the autumn followed by a similar number in February and March). A careful analysis of the clinical phenomena observed in the vaccinated group indicates that there was no reduction in the number of simple colds or of respiratory infections associated with fever in the vaccinated as compared with the nonvaccinated groups. There was, however, an apparent reduction in the severity of infections in the vaccinated infants as judged by the average duration of the febrile period. This was shorter by 40 per cent in the vaccinated as compared with the unvaccinated group. There were five instances of pneumonia among the nonvaccinated and only one among the vaccinated. The authors conclude that a consideration of the results obtained up to the present leads one to ask whether any clues exist that may be followed with any hope of success in solving the problem of colds and influenza. The knowledge that they are primarily infectious due to agents belonging to the group of filtrable viruses and that in some instances the etiology may be complicated by the presence of one or more of the well known pathogenic bacteria should so clarify the understanding of them that henceforward more rational methods of control may be undertaken.

TRAUMATIC EPITHELIAL CYSTS OF THE SKIN

Max S. Wien and Marcus R. Caro, Chicago (Journal A. M. A., Jan. 20, 1934), direct attention to traumatic epithelial cysts of the skin which have been previously reported under various titles. They report three such cases with histologic examination in two. Traumatic epithelial cysts develop as a result of injury to the skin, usually produced by a blunt or tearing instrument. Such cysts occur most often on exposed sites, such as the fingers and palms, and are especially prevalent in those occupations which predispose to injury. The origin of the cyst is most probably from a bit of epidermis which has been torn from the surface and implanted in the corium. It may also originate from deeper epithelial structures in the absence of surface injury. Here the cyst may form about a foreign body by proliferation of epithelium from the hair follicles or the glandular structures of the skin. Occasionally a foreign body granuloma with cyst formation may simulate an epithelial cyst of traumatic origin.